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The Diminished Purchasing Power *of* Railway Earnings

Suggestions Concerning the Necessity of an Adjustment of Railway Rates to Meet New Industrial Conditions and the Increased Cost of Improved and Additional Transportation Facilities

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By

C. C. McCAIN

New York
April, 1909

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The Diminished Purchasing Power *of* Railway Earnings

INTRODUCTION.

THE ten years or more which have elapsed since the resumption of industrial activity that began some time in 1897 have been characterized by changes in rates of wages for substantially all kinds of labor, and in the prices of most commodities which amount to a profound and material alteration in the value of money. Wages of railway labor, prices of railway materials and supplies and prices of commodities carried by railways and of those produced by the purchasers of railway transportation have rapidly increased. This is equivalent to a decrease in the value of the money in which railway charges are paid for the appreciation of commodities *is* the depreciation of money. Commodities cannot have generally augmented value without money having diminished value.* Railway rates have not been adjusted to this diminished value of money. The involuntary and unsolicited reduction in railway rates has gone so far as seriously to threaten the stability of railway wages and that of the whole railway industry. Some adjustment through compensatory advances in money rates (*i. e.,* nominal rates) is, therefore, absolutely necessary. The

*Cf. F. W. Taussig, Infra. pp. 63-4.

extent of the changes which have taken place, their relation to the problem of railway rates and the adjustments which they have made necessary are set forth in the following pages.

TYPICAL UNCHANGED RATES.

A fifteen-ton car-load of fourth class freight carried all-rail between Chicago and New York at any time during the year 1897 would have brought the railways transporting it $105.00 in gross receipts.

There has been no change in the class-rates between Chicago and New York since 1897 and the same quantity of freight, classified in the same way, produces the same gross receipts now that it did in 1897.*

The rates between Chicago and New York, as is very well known, are the basis of all rates in the region north of the James, Potomac and Ohio rivers and east of the Mississippi river and of a large proportion of the rates applicable to traffic originating at or destined to any point in that region. Without a change in rates between Chicago and New York there could have been, during the continuance of the system of rate adjustment that has been in force since long prior to the year 1897, no general change in the rates based upon those in force between those cities.

WAGES OF RAILWAY EMPLOYEES.

More than forty per cent † of the gross receipts of the railways of the United States are expended in the pay-

*A partial list of the articles in each class in 1897 which are still in the same class, as shown by Official Classifications Nos. 16 and 32, will be found in Appendix A, at pages 76 to 84.

†The proportion was equal to 41.49 per cent. in 1897 and to 41.42 per cent in 1907.

ment of employees, the sums annually paid out for that purpose since 1897 being as follows:

Year.	Amount paid to employees.
1897	$465,601,581
1898	495,055,618
1899	522,967,896
1900	577,264,841
1901	610,713,701
1902	676,028,592
1903	*776,321,415
1904	817,598,810
1905	839,944,680
1906	†927,801,653
1907	1,072,386,427
Total	$7,781,685,214

It is a matter of common knowledge and of frequent comment that a given sum of money will now buy very much less in labor or commodities than it would in 1897. The change has been gradual but substantially continuous and the aggregate result has been enormous. The consequences of this change have worked great hardship to those whose incomes have not been adjusted to the changed purchasing power of money but fortunately the rates of wages of nearly all workmen and the prices of practically all products of labor expended upon farms or in factories or otherwise have been raised sufficiently to more or less completely offset it. The principal sufferers are those salaried employees whose salaries have not been readjusted and those whose incomes are received under contracts covering long periods of time or are derived from the marketing of commodities or services at prices

*Amount paid by Chicago, Milwaukee and St. Paul Railway, which was not reported, estimated at $19,000,000. This company paid $19,976,412 to its employees in 1904.

†Amount paid by Southern Pacific Company, which was not reported, estimated at $27,000,000. This company paid $27,530,-117 to its employees in 1905.

more or less effectively controlled by custom or statute. Many of the owners of railway bonds are in the second class and all interstate railways are, as to the disposal of their services, in the third class.

As already noted, the gross revenue derivable by the railways from the transportation of a carload consisting of fifteen tons of fourth class freight between Chicago and New York is the same now that it was in 1897—*i. e.*, $105.00. But $105.00 is worth much less to any railway now than it was in 1897 for money is worth at any time what it will buy at that time. The reports of the Interstate Commerce Commission show the following increases in rates of average daily wages paid to railway employees:

Class of Employees.	Wages per day.		
	1897.	1907.	Increase, per cent
Station agents	$1.73	$2.05	18.50
Other stationmen	1.62	1.78	9.88
Enginemen	3.65	4.30	17.81
Firemen	2.05	2.54	23.90
Conductors	3.07	3.69	20.20
Other trainmen	1.90	2.54	33.68
Machinists	2.23	2.87	28.70
Carpenters	2.01	2.40	19.40
Other shopmen	1.71	2.06	20.47
Section foreman	1.70	1.90	11.76
Other trackmen	1.16	1.46	25.86
Switchmen, flagmen and watchmen	1.72	1.87	8.72
Telegraph operators and despatchers	1.90	2.26	18.95
Employees, account floating equipment	1.86	2.27	22.04
All other employees and laborers	1.64	1.92	17.07

The foregoing affords a means of ascertaining the real value of $105.00 of railway gross receipts in 1897 and 1907 and the decrease from the earlier to the later year. The following table shows the number of days labor of each of the different classes of railway labor which $105.00 would buy in each of the years indicated:

Class of Employees.	Number of days labor purchasable for $105.00		
	1897.	1907.	Decrease, per cent.
Station agents	60.7	51.2	15.65
Other station men	64.8	59.0	8.95
Enginemen	28.8	24.4	15.28
Firemen	51.2	41.3	19.34
Conductors	34.2	28.5	16.67
Other trainmen	55.3	41.3	25.32
Machinists	47.1	36.6	22.29
Carpenters	52.2	43.8	16.09
Other shopmen	61.4	51.0	16.94
Section foremen	61.8	55.3	10.52
Other trackmen	90.5	71.9	20.55
Switchmen, flagmen and watchmen	61.0	56.1	8.03
Telegraph operators and despatchers	55.3	46.5	15.91
Employees, account floating equipment	56.5	46.3	18.05
All other employees and laborers	64.0	54.7	14.53
Average	....	....	16.27

The foregoing shows that on the average the gross railway receipts derived from the service assumed as the basis of the calculation would purchase 16.27 per cent less of the necessary services of railway employees, in 1907 than in 1897 and what is true of the receipts from this service is true of every dollar received by a railway—that is, no railway dollar will pay for more than eighty-four per cent, on the average, as much railway labor as it would in 1897.

The change in railway rates necessary fully to offset this decrease in the value of the money in which rates are paid would amount to an apparent advance of 19.43 per cent of the money rates now in force.

COST OF FUEL FOR LOCOMOTIVES.

Next to labor the principal single item of expense incurred in the operation of the railways of the United States is for the fuel used in their locomotives. The expenditures for this purpose now constitute about eleven

per cent of the cost of operation and since 1897 have been as follows:

Year.	Cost of fuel for locomotives.
1897	$65,044,670
1898	72,469,777
1899	77,187,344
1900	90,593,965
1901	104,926,568
1902	120,074,192
1903	146,509,031
1904	158,948,886
1905	156,429,245
1906	170,499,133
1907	200,261,975
Total	$1,362,944,786

Thus, from 1897 to 1907, the cost of fuel for locomotives, in spite of the economies in its use partially suggested by the contemporaneous increase in the train-load of freight from 204.62 to 357.35 tons, or 74.64 per cent, increased 207.88 per cent, while passenger traffic increased but 126.15 per cent and freight traffic but 148.69 per cent. Thus while there was one dollar spent for locomotive fuel in 1897 for each $17.25 of gross railway receipts the ratio had declined by 1907 to one dollar for locomotive fuel for each $12.93 of gross receipts—a difference which must plainly be productive of profound changes in the proportion of gross receipts remaining after the payment of necessary operating expenses. The average prices of coal, per ton of 2,000 pounds, at the mines, in the several states, in the years 1897 and 1907, as given by the United States Geological Survey, were as follows:

State.	Price per ton.		
	1897.	1907.	Increase, per cent.
Alabama	$0.86	$1.29	46.59
Arkansas	1.06	1.66	56.49
California	*2.55	*3.81	49.41
Colorado	1.17	1.46	19.66
Georgia	†1.03	†1.38	33.98
Idaho	‡3.33	‡4.10	23.12
Illinois	.72	1.07	48.61
Indiana	.84	1.08	28.57
Iowa	1.13	1.62	43.36
Kansas	1.18	1.52	28.81
Kentucky	.79	1.06	34.18
Maryland	.76	1.20	57.89
Michigan	1.46	1.80	23.29
Missouri	1.08	1.64	51.85
Montana	1.76	1.94	10.23
New Mexico	1.38	1.46	5.80
North Dakota	1.06	1.61	49.07
Ohio	.78	1.10	41.03
Oklahoma	1.34	2.04	52.24
Oregon	3.09	2.34	Decrease
Pennsylvania—			
Bituminous	.69	1.04	50.72
Anthracite	1.51	1.91	26.49
Tennessee	.81	1.25	54.32
Texas	1.52	1.68	11.18
Utah	1.19	1.52	27.73
Virginia	.67	1.02	52.24
Washington	1.94	2.09	7.73
West Virginia	.63	.99	57.14
Wyoming	1.21	1.56	28.93

*Includes Alaska.
†Includes North Carolina.
‡Includes Nebraska.

It will be noted that the cost of coal increased in every state of considerable production. In California much of the locomotive fuel used consists of petroleum, and the same fuel is used to some extent in Oregon and New Mexico.

The number of tons of coal purchasable at the mines in the several states with $105.00, the gross revenue from the typical shipment which has been used for illustrative purposes, in 1897 and in 1907, would have been as follows:

State.	Tons of coal purchasable for $105.00		
	1897.	1907.	Decrease, per cent.
Alabama	119	81	31.93
Arkansas	99	62	37.37
California	41	28	31.71
Colorado	90	75	16.67
Georgia	102	76	25.49
Idaho	32	26	18.75
Illinois	146	98	32.88
Indiana	125	97	22.40
Iowa	93	65	30.11
Kansas	89	69	22.47
Kentucky	133	99	25.56
Maryland	138	88	36.23
Michigan	72	58	19.44
Missouri	97	64	34.02
Montana	60	54	10.00
New Mexico	76	72	5.26
North Dakota	97	65	32.99
Ohio	135	95	29.63
Oklahoma	78	51	34.62
Oregon	34	45	Increase
Pennsylvana—			
Bituminous	152	101	33.55
Anthracite	70	55	21.43
Tennessee	130	84	35.38
Texas	69	62	10.14
Utah	88	69	21.59
Virginia	157	103	34.39
Washington	54	50	7.41
West Virginia	167	106	36.53
Wyoming	87	67	22.99

In this connection it should be noted that the United States Department of Labor reports an increase, between 1897 and 1907, in the price of anthracite of 29.23 per cent, and in bituminous coal from the Georges Creek region of 85.54 per cent.

COST OF RAILWAY SUPPLIES.

Bulletin No. 75, of the United States Bureau of Labor, shows average prices for the following articles used by railways, or, as raw materials, for the manufacture of railway supplies:

Articles.	Unit.	Price. 1897.	1907.	Increase, per cent.
Axes, M. C. O. Yankee	Each	.39	.68	74.36
Coke, Connellsville, furnace	Ton	1.62	2.83	74.69
Bar iron, best refined, from mill	Pound	.011	.0175	59.09
Barbed wire, galvanized	Cwt.	1.80	2.63	46.11
Copper wire, bare	Pound	.1375	.2402	74.69
Doorknobs, steel, bronze, plated	Pair	.166	.450	171.08
Files, 8-inch	Dozen	.81	1.00	23.46
Hammers, Magdole, No. 1½	Each	.38	.47	23.68
Lead pipe	Cwt.	4.32	6.71	55.32
Locks, common, mortise	Each	.0833	.20	140.10
Nails, cut, 8-penny, fence and common	Cwt.	1.33	2.16	62.41
Nails, wire, 8-penny, fence and common	Cwt.	1.49	2.12	42.28
Pig iron, Bessemer	Ton	10.13	22.84	125.47
Pig iron, foundry No. 1	Ton	12.10	23.90	97.52
Pig iron, foundry No. 2	Ton	10.10	23.87	136.34
Pig iron, gray, forge, southern, coke	Ton	8.80	20.99	138.52
Steel billets	Ton	15.08	29.25	93.97
Steel rails	Ton	18.75	28.00	49.33
Steel sheets, black, No. 27	Pound	0.019	0.025	31.58
Tin, pig	Pound	.1358	.3875	185.35
Tin, plates, domestic, Bessemer, coke	Cwt.	3.18	4.09	28.62
Zinc, sheet	Cwt.	4.94	7.49	51.62
Brick, common domestic	M	4.94	6.16	24.70
Cement, Rosendale	Bbl.	.75	.95	26.67
Doors, pine	Each	.81	1.88	132.10
Lumber, hemlock	M feet	11.00	22.25	102.27
Lime, common	Bbl.	.72	.95	31.94
Linseed oil, raw	Gal.	.33	.43	30.30
Lumber, maple, hard	M feet	26.50	32.25	21.70
Lumber, oak, white, plain	M feet	36.25	55.21	52.30
Lumber, oak, white, quartered	M feet	53.83	80.00	48.62
Lumber, pine, yellow	M feet	16.44	30.50	85.52
Lumber, poplar	M feet	30.67	58.08	89.37
Shingles, cypress	M	2.35	4.23	80.00
Lumber, spruce	M feet	14.00	24.00	71.43
Window glass, American, single, firsts, 6 by 8 to 10 by 15 inch	50 sq. ft.	2.20	2.81	27.73
Window glass, American, single, thirds, 6 by 8 to 10 by 15 inch	50 sq. ft.	1.96	2.24	14.29

The bulletin indicates that putty, Portland cement and Ames shovels are about the only exceptions to the general rule of greatly increased prices of railway supplies. It is plain that as to all of the important supplies and materials included in the foregoing list the $105.00 of gross receipts from the typical shipment heretofore used as an example would show the same, or a greater, loss in purchasing power which has characterized the comparisons previously shown.

Evidence from official sources thus shows that in purchasing the same quantities either of labor or of supplies the railways have now to expend much larger sums than

they did ten years ago. The official statistics already quoted are fully supported and their pertinence to the problem in hand is fully proven by the accounting records of the purchasing departments of the several railways. The Trunk Line Association has obtained detailed information concerning purchases in 1897 and 1907, by important railways represented in its organization, and this information has been carefully and accurately tabulated. A table showing the largely increased cost of articles which this tabulation reveals has been made Appendix B and will be found at pages 85 to 88 of this pamphlet. An examination of this appendix and, particularly of the classes of labor and of the articles shown to have greatly increased in cost, discloses the unquestionable fact that the increased cost pervades the whole aggregate of operating expenses and that there is no considerable exception to the rule that every item of operating expenditure is now very much greater than it was in 1897.

OTHER COSTS OF SUPPLYING RAILWAY SERVICES.

The cost of railway transportation which must be borne out of the receipts for railway services includes operating expenses, interest on capital and taxes. Before discussing the increase in the rate of interest demanded it is worth while to note that the exactions made by the taxing power upon the railways have also notably increased.

RAILWAY TAXATION.

The sums annually paid as taxes on railway property since 1897 follow:

Year.	Miles operated and included in reports of taxes paid.	Taxes paid.	
		Amount.	Average per mile operated.
1897	183,284.25	$43,137,844	$235.36
1898	184,648.26	43,828,224	237.36
1899	187,534.68	46,337,632	247.09
1900	192,556.03	48,332,273	251.00
1901	195,561.92	50,944,372	260.50
1902	200,154.56	54,465,437	272.12
1903	205,313.54	57,849,569	281.76
1904	212,243.20	61,696,354	290.69
1905	216,973.61	63,474,679	292.55
1906	222,340.30	74,785,615	336.36
1907	227,454.83	80,312,375	353.09
Total	* *	$625,164,374	* *

Thus in the years from 1897 to 1907 railway taxation per mile of line has increased from $235.36 to $353.09, or no less than 50.02 per cent.

COST OF REGULATION.

Closely akin to taxation of railway property are the additional expenses which have to be met out of railway revenues on account of public regulation. The increased and, in many cases, minute regulation imposed by the Hepburn law of 1906 and the rules and requirements established thereunder by the Interstate Commerce Commission and by various State enactments have caused the railways many new and augmented expenditures. Among the many purposes for which these expenditures have become necessary are those enumerated below:

1. Preparation, publication, filing, posting, etc., of rate schedules.

2. Compilation and tabulation of statistics, preparation and filing of annual reports of operation and finance.

3. Litigation under regulatory statutes including cases before National and State commissions and including legal and incidental expenses thereof.

4. Appliances and special equipment required by safety appliance laws.

5. Additional employees and additional wages paid on account of laws regulating the hours of labor.

Besides these and other positive additions to the expenses of operation there have been considerable reductions in revenue brought about by the various regulative statutes. Thus there have been reductions in revenue caused by the following:

1. Orders, or suggestions having practically the force of orders, requiring changes in the classification of freight.

2. Orders, or suggestions having practically the force of orders, requiring reductions in rates.

3. Statutory reduction in the rates of compensation for carrying the mail.

4. Reduction of compensation for carrying the mail made by executive order.

A painstaking effort to secure accurate statistics concerning recent increases in these expenditures and losses has been made and data for that purpose have been supplied by many of the railways operating east of the Mississippi river. These data are necessarily incomplete and fragmentary, the accounts of many of the companies not being kept in such form as fully to disclose the items desired. In few cases were the data which could be obtained for any line complete—some companies were able to report particular items while other companies could not give these, but could supply others. Generally speaking, it

should be realized that the tabulation of these reports makes a showing which is incomplete mainly in the form of omissions. A conservative computation discloses that the costs due to increases in expenses or reductions in revenue imposed by statutes or by Commissions acting under Federal and State regulatory laws costs the railways of the United States approximately $200,000,000 [redacted] in two year That this is not an exaggerated estimate will be appreciated by reference to the principal general items of expenditures as enumerated on the preceding pages. Until these items shall have been assigned a proper classification in the accounts of the railroads the accurate results may not be ascertained, but it will at once occur to those in any measure informed, that there has been an enormous increase of work and expense placed upon the carriers to conform to the innumerable requirements of State and Federal laws and the rulings of the Commissions thereunder, and that this burden has extended to all departments of the carriers. Litigation and miscellaneous expenses appear as a large part of these new costs, and in addition, the carriers' revenues have been greatly depleted either directly by the laws, orders of Commissions or suggestions having practically the force of orders, resulting in reductions of freight and passenger charges.

COST OF OBTAINING NEW CAPITAL.

In the matter of interest on the capital employed the railways have apparently enjoyed an advantage which would seem to offset the natural tendency of interest rates to rise in response to the stimulus of augmented cost, in dollars and cents, of the commodities entering

into the budget of expenditures of the average recipient of interest—that is to say, the advantage growing out of the fact that a large proportion of railway capital is secured under long-time contracts and that many of the contracts now in force unquestionably run back to a time before the extensive depreciation of the American dollar began. This advantage is a real one but its extent is easily exaggerated. For the purpose of throwing light upon the effect upon the cost of railway transportation of the rise in interest rates which has characterized recent years an analytical study of railway indebtedness (including guaranteed dividends) amounting, in the aggregate, to $9,499,099,065 * has been made. This sum represents indebtedness now outstanding and includes some duplication owing to the fact that certain of the securities represented in the aggregate are themselves based upon other securities deposited as collateral or held in the treasuries of the corporations making the secondary issues; duplication which could not be eliminated without adding vastly to the difficulty of the inquiry with no corresponding gain in the accuracy of the result. These data are also subject to the qualification necessarily due to the fact that all of the issues included were not sold at par. In some cases a small premium was doubtless obtained and in other cases a slight discount was required but, nevertheless, it is believed that the data fairly indicate the general change in interest rates on capital loaned to rail-

*The Interstate Commerce Commission gives $9,342,961,476 as the aggregate par value of the funded debt obligations of the railways of the United States. See Special Report No. 1, Bureau of Statistics of the Interstate Commerce Commission.

ways. Of the total outstanding indebtedness of $9,499,-099,065 the portion incurred during the years 1897 to 1908, inclusive, amounts to $5,466,340,252, or 57.55 per cent. The following table shows the amounts incurred at the different rates during each of the years named:

Rate of Interest and Amount Incurred During Year and Outstanding.

Year.	6½ per cent.	6 per cent.	5 per cent.	4½ per cent.	4 per cent.	3¾ per cent.	3½ per cent.	3 per cent.
1897	.....	$11,039,000	$42,126,000	$7,700,000	$205,882,500	.....	$221,663,000	$4,998,275
1898	.....	487,000	7,486,700	207,000	187,898,000	.....	194,724,325	.....
1899	.....	13,094,000	29,197,000	15,896,000	277,784,400	.....	126,734,000	43,231,272
1900	.....	1,133,000	15,926,351	7,979,000	83,735,500	.....	62,577,000	43,689,000
1901	.....	1,777,775	38,840,000	37,845,378	382,131,250	$330,000	51,635,000	.....
1902	.....	.....	44,949,508	19,949,600	348,038,050	.....	58,641,500	.....
1903	.....	1,552,000	53,592,030	22,092,500	317,948,000	.....	22,308,000	9,866,435
1904	.....	256,000	61,191,561	30,241,729	193,499,500	.....	39,890,000	.....
1905	.....	1,810,000	66,346,000	73,996,100	354,507,404	.....	112,645,155	16,000,000
1906	.....	1,180,579	141,786,511	40,922,181	251,037,681	48,262,548	31,098,670	.....
1907	.....	30,325,000	289,458,892	177,805,962	210,339,075	.....	423,000	.....
1908*	.....	114,504,970	47,546,385	2,850,000	101,380,000	.....	.....	.....
Total	$350,000	$177,159,324	$838,446,938	$437,485,450	$2,924,181,360	$48,592,548	$922,339,650	$117,784,982

*January to July, only.

Even a cursory examination of the foregoing statement shows that the average rate of interest demanded by those who supply railway capital has greatly increased. In 1897 and 1898 the largest aggregate of new indebtedness was incurred at the rate of three and one-half per cent per annum; in 1899, 1900, 1902, 1903, 1904, 1905 and 1906 the preponderating portion was at four per cent; in 1907 the largest aggregate was at five per cent, while in the months of 1908 for which data are available the greater portion was obtained at six per cent. Loans at three and three and one-half per cent, which supplied a considerable aggregate during all of the years to and including 1906 and particularly in the earlier years of the period, had substantially disappeared before 1907 and no funds were procured at less than four per cent during the portion of 1908 which is included. The increased volume of loans at five and six per cent is equally marked. The following table makes this analysis clearer by showing the total borrowings of each year and the percentage at each rate:

Year.	Borrowed.	Rate of Interest and Proportion of Total Indebtedness Incurred During Year and Outstanding.							
		6½ per cent.	6 per cent.	5 per cent.	4½ per cent.	4 per cent.	3¾ per cent.	3½ per cent.	3 per cent.
1897	$493,408,775	...	2.24	8.54	1.56	41.73	.....	44.02	1.01
1898	390,803,025	....	.12	1.92	.05	48.08	....	49.83	....
1899	505,936,672	....	2.59	5.77	3.14	54.91	....	25.05	8.54
1900	215,039,851	....	.53	7.40	3.71	38.94	....	29.10	20.32
1901	512,559,403	....	.35	7.58	7.38	74.55	.07	10.07	....
1902	471,578,658	....	....	9.53	4.23	73.80	....	12.44	....
1903	427,358,965	....	.36	12.54	5.17	74.40	....	5.22	2.31
1904	325,078,790	....	.08	18.82	9.30	59.53	....	12.27	....
1905	635,304,659	....	.28	10.44	11.65	57.38	....	17.73	2.52
1906	514,638,170	0.07	.23	27.55	7.95	48.78	9.38	6.04	....
1907	708,351,929	....	4.28	40.86	25.10	29.70	....	.06	....
1908*	266,281,355	....	43.00	17.86	1.07	38.07	....	....	....
Total ..	$5,466,340,252	0.01	3.25	15.34	8.00	53.49	0.89	16.87	2.15

*January to July, only.

The foregoing table shows that while, in 1897, the rail-

ways borrowed 87.66 per cent and in 1898, 97.91 per cent of the new capital obtained in the form of loans at four per cent or better they were compelled, in 1907, to promise more than four per cent on 70.24 per cent and in the first six months of 1908, to promise six per cent on 43.00 of their borrowings. The significance of these figures is made still more apparent by the following table which shows opposite the aggregate borrowings of each year, the interest charges thereon and the average rate upon the portion of the capital which it represents:

Year.	Borrowed.	Aggregate interest charges.	Average rate of interest.
1897	$493,408,775	$19,258,593	3.90
1898	390,803,025	14,744,141	3.77
1899	505,936,672	19,804,814	3.91
1900	215,039,851	8,073,638	3.75
1901	512,559,403	20,856,559	4.07
1902	471,578,658	19,119,182	4.05
1903	427,358,965	17,561,577	4.11
1904	325,078,790	13,571,945	4.17
1905	635,304,659	25,758,601	4.05
1906	514,638,170	21,964,215	4.27
1907	708,351,929	32,722,061	4.62
1908*	266,281,355	13,431,067	5.04
Total	$5,466,340,252	$226,866,413	4.15

*January to July, only.

The foregoing shows an increase, in the average interest rate demanded upon new loans to railway corporations, from 3.90 per cent in 1897 to 4.62 in 1907 and 5.04 in 1908. The increase in the rate from 1897 to 1907 was equal to 18.46 per cent and from 1897 to 1908 it was 29.23 per cent. In other words one dollar would pay interest on as much of the new capital secured by loans in 1897 as $1.29 would of the loans of 1908. The gross revenue of $105.00 obtained in both years from the typical shipment of fourth class freight between Chicago and New York, at the unchanged rate applicable to such a shipment in both years, would pay interest on $2,692.31 secured in the

earlier year and on only $2,083.33 secured in the later year. The loss in power to purchase loaned capital therefore amounts to 22.62 per cent. In order fully to appreciate the importance of this rise in the cost of capital it is necessary to realize that very great sums of new capital are annually required for the necessary augmentation and improvement of railway facilities. This is made evident by the total yearly borrowings as shown in the foregoing tables, but it should be borne in mind that further sums, certainly not less extensive in the aggregate, have been raised through issues of stock, which promise no certain rate of interest, although these sums could not have been obtained unless the subscribers had considered it probable that they would, in the long run, receive returns in dividends at least equal to the "going rate" of interest. It is interesting to note that the aggregate of new capital secured by loans in each year has very largely exceeded the total interest payments to all capital obtained by borrowing. This is shown by the following table, the data in which, except those as to the sums obtained by loans, are from the reports of the Interstate Commerce Commission:

Year.*	New capital borrowed.	Interest on funded debt.	Per cent of interest payments to new borrowings.
1898	$390,803,025	$237,578,706	60.79
1899	505,936,672	241,657,535	47.76
1900	215,039,851	242,966,285	*113.00
1901	512,550,403	252,594,808	49.28
1902	471,578,658	260,295,847	55.20
1903	427,358,965	268,830,564	62.90
1904	325,078,790	282,118,458	86.78
1905	635,304,659	294,803,884	46.40
1906	514,638,170	305,337,754	59.33
1907	706,851,929	323,733,751	45.79
Total	$4,706,650,122	$2,709,949,572	57.58

*Accurate data for payments to capital in 1897 are not available.

FROM THE VIEW-POINT OF THE PURCHASER OF THE SERVICES.

So far the extent and significance of the changes in the value, or purchasing power of money, have been considered from the point of view of those who produce and sell railway transportation. But equally striking changes will appear and similar conclusions are inevitable when recent history is reviewed in the aspect which it presents to those whose earnings are devoted, in part, to the purchase of the services which the railways supply. For the important consideration to the wage-earner who wishes to travel by rail or who buys commodities that have been so carried, or to the producer whose products must go to market over railway routes, is not, how much money must be paid for the railway services, but, rather, how much labor must be expended, or what quantity of his goods must be produced, in order to obtain that sum of money. If the earnings of a particular wage-earner have increased from fifty to seventy-two cents per hour, a railway service is cheaper, to him, if it costs twelve cents than it was at ten cents when his earnings were on the fifty-cent basis, for he now procures with the fruit of ten minutes' toil what formerly cost the result of twelve minutes' labor. In Bulletin No. 77, just issued by the United States Bureau of Labor, the official statistician presents data showing the relative wages per hour of many different classes of wage-earners, not including railway employees, in 1897 and 1907. While these data show that wages have almost uniformly advanced (there are ten somewhat questionable exceptions among the 342 classes) the data supplied by the Interstate Commerce Commission show

that during the same period average railway freight rates have declined from 7.98 mills to 7.59 mills per ton per mile, or 4.89 per cent. A table presenting and based upon these official statistics and showing the relative wages per hour of the various classes of labor, in 1897 and 1907, the percentage increase in wages-rates per hour and the increased command over railway freight services which these wage-earners have obtained through the combined effect of higher wages and lower ton-mile rates has been made Appendix C, and will be found at pages 89 to 95. In studying the data presented in this appendix it should be borne in mind that the wages are relative and not absolute. They mean, for example, that the average male blacksmith in the agricultural implement industry was paid, in 1907, $1.25 for the same quality and period of labor for which he was paid a little less than ninety-six cents, in 1897. This increase amounted to 30.58 per cent of the wages-rate of 1897, and, combined with a decreased cost of railway freight service of 4.89 per cent, which made 95.11 cents go as far in purchasing the latter in 1907 as one dollar would go in 1897, gave him 37.29 per cent greater command over railway freight services.

In an earlier bulletin, No. 75, published during the current year, the Bureau of Labor continued its "index numbers" which show, in similar manner the average relative wholesale prices of the commodities entering into the ordinary budget of family expenditures. For the purpose of presenting the changes in these prices on a uniform basis the Bureau represents the averages for the ten years from 1890 to 1899, inclusive, as one hundred

per cent and reduces the averages for each year to percentages of the averages for the basic period. The following table presents these figures for the years 1897 to 1907, inclusive:

Year.	Relative Wholesale Prices.									
	Farm Products.	Food.	Cloths and Clothing	Fuel and Lighting.	Metals and Implements.	Lumber and Building Materials.	Drugs and Chemicals.	House Furnishing Goods.	Miscellaneous.	All Commodities
1890-1899	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1897	85.2	87.7	91.1	96.4	86.6	90.4	94.4	89.8	92.1	89.7
1898	96.1	94.4	93.4	95.4	86.4	95.8	106.6	92.0	92.4	93.4
1899	100.0	93.8	96.7	105.0	114.7	105.8	111.3	95.1	97.7	101.7
1900	109.5	104.2	106.8	120.9	120.5	115.7	115.7	106.1	109.8	110.5
1901	116.9	105.9	101.0	119.5	111.9	116.7	115.2	110.9	107.4	108.5
1902	136.5	111.8	102.0	134.3	117.2	118.6	114.2	112.2	114.1	112.9
1903	118.8	107.1	196.6	140.8	117.6	121.4	112.6	113.0	113.0	113.6
1904	126.2	107.2	100.8	132.6	109.6	122.7	110.6	111.7	111.7	113.6
1905	124.2	108.7	112.0	128.8	122.5	127.7	109.1	109.1	112.8	115.9
1906	123.6	112.6	120.0	131.9	135.2	140.1	101.2	111.0	121.1	122.5
1907	137.1	117.8	126.7	135.0	143.4	146.9	109.6	118.5	127.1	129.5

From the data in the foregoing table, which show advances averaging nearly forty-five per cent, the following table, indicating the present purchasing power over railway freight service of each class of articles, in a manner similar to that adopted to measure the increased power of labor to buy railway freight transportation, has been derived:

Commodities.	Relative prices.			Increased power to purchase railway freight services per cent.
	1897.	1907.	Increase per cent.	
Farm products	85.2	137.1	60.92	69.19
Food	87.7	117.8	34.32	41.22
Cloths and clothing	91.1	126.7	39.08	46.23
Fuel and lighting	96.4	135.0	40.04	47.24
Metals and implements	86.6	143.4	65.59	74.10
Lumber and building materials	90.4	146.9	62.50	70.85
Drugs and chemicals	94.4	109.6	16.10	22.07
House furnishing goods	89.8	118.5	31.96	38.74
Miscellaneous	92.1	127.1	38.00	45.09
All commodities	89.7	129.5	44.37	51.79

Dun's Review, a periodical devoted to commercial matters, has also, for many years, compiled statistics of prices and has sought to reduce them to a uniform basis. These figures, shown below, are intended to represent the wholesale cost at successive periods, of the articles of different classes used during one year by the average or typical inhabitant of the United States. These costs, as compiled by the authority named, and as they were on January 1 of each of the years 1897 to 1907, appear below:

January 1.	Relative Prices.							
	Breadstuff.	Meats.	Dairy and Garden.	Other Food.	Clothing.	Metals.	Miscellaneous.	Total.
1897	$11.729	$7.327	$10.456	$8.170	$12.467	$13.014	$12.399	$75.502
1898	13.511	7.336	12.371	8.312	14.654	11.572	12.184	79.940
1899	13.816	7.520	11.458	9.096	14.150	11.843	12.540	80.423
1900	13.254	7.258	13.762	9.290	17.484	18.085	16.312	95.295
1901	14,486	8,407	15,556	9,504	16,024	15,810	15,881	95,668
1902	20,002	9,670	15,248	8,952	15,547	15,375	16,793	101,587
1903	17,104	9,522	14,613	9,418	15,938	17,185	16,578	100,358
1904	17.102	8.138	15.287	9.653	17.316	15.887	16.759	100.142
1905	18.278	7.950	13.948	10.699	16.319	16.188	16.936	100.318
1906	16.544	8.426	14.399	9.822	19.313	17.141	18.809	104.464
1907	16.079	9.350	14.965	9.760	19.637	18.067	19.386	107.264

The increase shown by the foregoing, from $75.50 in 1897 to $107.26 in 1907, amounts to 49.37 per cent and is, therefore, strongly corroborative of the substantial accuracy of the data supplied by the Bureau of Labor. On the basis of the increased prices shown by *Dun's Review,* the power to purchase railway freight service of the producers of the different classes of commodities has increased in the ratios shown in the last column of the table next below:

Class of Articles.	Relative Prices.		Power to purchase railway freight services.		
	January 1, 1897.	January 1, 1907.	At the average rate per ton per mile of 1897, ton-miles.	At the average rate per ton per mile of 1907, ton-miles.	Increase. per cent.
Breadstuffs	$11.729	$16.079	1470	2118	44.06
Meats	7,327	9,350	918	1232	34.20
Dairy and garden ..	10.456	14.965	1310	1972	50.53
Other food	8.170	9.760	1024	1286	25.59
Clothing	12.407	19.637	1555	2587	66.37
Metals	13.014	18.087	1631	2383	46.11
Miscellaneous	12,399	19,386	1553	2554	64.46
Total	$75.502	$107.264	9461	14132	49.37

AGRICULTURAL PRODUCTS AND FREIGHT RATES.

The statistician to the United States Department of Agriculture obtains annually a very large number of reports from farmers as to the prices obtained for their products and these are carefully tabulated. The results show the average prices, at the farms, of the principal agricultural products. The following table shows the increased prices obtained for such products, and the increased power which these producers enjoy, per unit of their products, to purchase railway freight services:

Product.	Value of crop of 1907.	Unit.	Price. 1897.	Price. 1907.	Increase per cent.	Increased power to purchase railway freight service per cent.
Corn	$1,336,901,000	Bushel	$0.263	$0.516	96.20	106.28
Wheat	554,437,000	"	.806	.874	8.17	13.78
Oats	334,568,000	"	.212	.443	108.96	119.70
Barley	102,290,000	"	.377	.666	76.66	85.74
Rye	23,068,000	"	.447	.731	63.53	71.94
Buckwheat ...	9,975,000	"	.421	.696	65.80	74.32
Potatoes	184,184,000	"	.547	.618	12,96	18.79
Hay	773,507,000	Ton	6.62	11.66	76.44	85.51
Cotton	613,630,436	Pound	.066	.104	57.58	65.68
Total.....	$3,932,560,436					

Detailed tables presenting the data from which the foregoing averages for the whole country have been derived and showing prices and purchasing power over freight service have been made Appendix D, which appears at pages 96 to 101, herein. These tables disclose the uniformity, throughout the United States, of the advance in agricultural prices and of the augmented command of agricultural producers over railway freight service. It is impossible to include in this appendix a table for cotton as farm prices for this commodity for separate States are not available.

FARM ANIMALS AND FREIGHT RATES.

The Department of Agriculture of the United States also collects data concerning the value of farm animals and annually publishes the average values reported for the first day of each successive year. All classes of farm animals have increased in value since 1897 and each represents a greater command over railway freight services, for the sum representing the average value of each animal, will now buy much more freight transportation than it would in 1897. This is shown by the following table:

	January 1, 1908.	Average price, each, January 1, 1897.	Average price, each, January 1, 1908.	Average price, each, Increase, per cent.	Increased power to purchase railway freight service, per cent.
Horses	$1,867,530,000	$31.51	$93.41	196.45	211.69
Mules	416,839,000	41.66	107.76	158.67	171.97
Milch cows ...	650,057,000	23.16	30.67	32.43	39.24
Cattle, except milch cows ..	845,938,000	16.65	16.89	1.44	6.65
Sheep	211,736,000	1.82	3.88	113.19	124.15
Swine	339,030,000	4.10	6.05	47.56	55.14
Total	$4,331,230,000	....	....	....	....

In considering the foregoing the fact that the prices relate solely to animals on farms should be borne in mind. They are doubtless somewhat lower than for animals elsewhere located but prices of the latter have probably moved in the same direction and in about the same extent. Detailed tables showing the prices of farm animals by States, as these prices were reported to the United States Department of Agriculture for January 1, 1897, and January 1, 1908, with the increases and increased command over railway freight service are to be found at pages 102 to 106, in Appendix E.

RAILWAY RATES IN 1897 AND AT PRESENT MEASURED IN MONEY.

Throughout the foregoing discussion reference has frequently been made to what has been assumed to be a typical shipment, that is, a fifteen-ton car-load of fourth class freight transported between Chicago and New York. The typical service rendered in moving this shipment would have brought the railways gross receipts of $105.00, in 1897 or in any of the intermediate years, and would bring the same amount now. The period in question, however, has witnessed many thousands of changes in railway rates on particular

commodities and between particular points and, confining the discussion for the present to the mere expression of rates in terms of money, it is necessary to inquire whether the general level of all rates has been raised or lowered and how far the change, if any is discovered, has gone in either direction. Now, it is manifestly impossible to correlate all rates in a single tabulation and, giving to each its proper weight in the determination of a final average, thus establish definitely and with complete precision the relation between the money rates of 1897 and those of the present time. The number of different articles shipped and the great number of different points at which each article may enter into the aggregate of traffic move ment or to which it may be destined, as well as the elusive character of the factors which would indicate the relative weight properly to be allowed to each separate rate, wholly preclude the adoption of such a method. Fortunately, however, American railway accountants long ago adopted a measure of traffic movement, which was later officially sanctioned by its adoption for the same purpose by the Interstate Commerce Commission, and which, when compared with the gross receipts from freight service, results in an average that throws great light upon the movement or absence of movement in the general level of the rates charged. When the weight of any shipment, expressed in tons, is multiplied by the distance which it is carried, expressed in miles, the resulting product gives a measure of the service performed, in units which are designated as "ton-miles." When the ton-miles (or ton-mileage) of all shipments are aggregated the total represents the sum of all services. The result of dividing the

revenue from a particular shipment by its ton-mileage is the average rate per ton per mile for that shipment and if the sum representing the aggregate gross receipts from all railway freight services is divided by the aggregate ton-mileage of those services the quotient obtained is the average ton-mile rate for all services. During the period from 1897 to 1907 these data have been compiled annually by the Interstate Commerce Commission under the direction of Professor Henry C. Adams, its statistician, who is also one of the most distinguished among American teachers of Economics. The average rates thus established are given both for the United States as a whole and for each of ten districts or groups. The following table shows these averages as they are given in the successive annual statistical reports of the Commission:

Group.	Region.	Year and average rate in mills per ton per mile.										
		1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.
I.	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut	12.02	11.76	11.23	11.52	11.51	11.72	11.67	11.96	11.79	11.72	11.45
II.	New Jersey, Delaware, Maryland, New York, east of Buffalo, Pennsylvania, east of Pittsburgh, West Virginia, north of Parkersburg	6.75	6.17	5.82	6.13	6.46	6.64	6.67	6.86	6.65	6.50	6.55
III.	New York, west of Buffalo, Pennsylvania, west of Pittsburgh, Michigan, lower Peninsula, Ohio, Indiana	6.05	5.78	5.29	5.46	5.68	5.76	6.07	6.20	6.07	5.94	5.96
IV.	West Virginia, south of Parkersburg, Virginia, North Carolina and South Carolina	6.48	5.92	5.94	5.95	6.41	6.50	7.14	7.16	6.91	6.90	7.03
V.	Kentucky, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, east of Mississippi River	8.64	8.35	8.07	8.08	8.02	8.16	8.27	8.51	8.39	8.13	8.27
VI.	Illinois, Wisconsin, Minnesota, Iowa, Missouri, north of St. Louis and Kansas City, South and North Dakota, east of Missouri River, Michigan, upper Peninsula	8.55	8.26	8.21	8.06	7.89	7.87	7.74	7.79	7.66	7.45	7.43
VII.	Nebraska, Wyoming, Montana, North and South Dakota, east of Missouri River, Colorado, north of Denver	11.48	11.57	11.01	10.64	10.43	9.94	9.80	9.64	9.00	8.94	9.33
VIII.	Arkansas, Indian Territory, Oklahoma Territory, Kansas, Colorado, south of Denver, Texas, Panhandle, New Mexico, north of Santa Fe	10.79	9.61	9.68	9.64	9.71	9.78	9.62	9.98	9.88	9.47	9.66
IX.	Texas, except Panhandle, Louisiana, west of Mississippi River, New Mexico, north of Santa Fe	10.40	10.42	10.65	9.38	10.18	9.84	9.74	10.00	10.96	10.09	10.51
X.	Washington, Oregon, Idaho, California, Arizona, Nevada, Utah, New Mexico, western portion	12.75	11.46	11.36	10.67	10.55	10.37	10.05	10.36	10.98	11.03	11.63
United States.		7.98	7.53	7.24	7.29	7.50	7.57	7.63	7.80	7.66	7.48	7.59

The foregoing shows that the average rates per ton per mile, expressed in money, were lower in every group but one, as well as in the whole country, in 1907 than they were in 1897. The average for the whole country was lower in 1907 than in any other year shown except the years 1898 to 1902, inclusive, and for three of those years the difference was less than one-tenth of one mill. The decrease in the general average from 1897 to 1907 was 4.89 per cent and the increase from 1899, the year of the lowest average, was 4.83 per cent.

Undoubtedly the ton-mile unit of traffic might change in quality and it has been urged that such a change may be sufficiently rapid to vitiate such comparisons as those afforded by the table last above given. The possibility of this variation and its causes and probable extent are discussed in a report made to the Committee on Interstate Commerce of the United States Senate by Professor Henry C. Adams, statistician to the Interstate Commerce Commission, and Mr. H. T. Newcomb, of Washington, D. C. They said in part:

> "The number of tons carried one mile over the railways of the United States during a given year is the equivalent of the total number of tons carried of all kinds of freight multiplied by the average distance transported. Dividing this aggregate into the total amount received for freight services a quotient is obtained which is the average amount received for carrying a typical ton of freight one mile. It is obvious, however, that the unit might fluctuate considerably in character, owing to variations in the proportion to the aggregate tonnage of shipments of high and low class freight, respectively, or without such variation, from changes in the geographical distribution of the volume of shipments. Thus, if freight of the higher grades should increase, proportionately to the total movement, much more rapidly than low-grade freight the quality of the ton-mile unit would become higher and an increase in the receipts per ton per mile, other factors remaining unchanged, would result.
>
> "Again, if the volume of movement east of the Mississippi river, where the rates are upon the average lower than

in the region west of that river, should grow relatively faster than in the rest of the country, the average receipts per ton per mile would show a decrease which would not represent a genuine change in the general level of charges. Changes of this general character and in both directions are going on at all times"*

Continuing, Professor Adams and Mr. Newcomb made the following statement concerning the situation as it then existed:

"The only testimony on this point before the Committee is to the effect that since 1899 traffic of the higher grades has increased more rapidly than that of lower grades, and that the proportionate increase in volume has been greater in the regions where normal rates are higher. Available evidence upon this point is not extensive. It is, however, sufficient at least to warrant the statement that comparisons between the average ton-mile revenue for the railways of the United States during the years 1899 and 1904 affords a maximum measure of the increase in average money rates. The change was from 7.24 mills in 1899 to 7.80 mills in 1904, or 7.73 per cent. It may, therefore, be regarded as certain that during the period in question the general level of railway rates, expressed in money, has not increased more than 7.73 per cent."†

The only significant change since the year 1904, which might offset the application of the foregoing, lies in the fact that the average ton-mile rate declined from 7.80 mills in that year to 7.59 mills in 1907. The logic of Professor Adams and his co-worker in the preparation of the report quoted is just as accurate now as it was when they wrote and it is still true that there can have been no raising of the general level of railway freight rates not disclosed by the average rate per ton per mile. And this average was, as has been noted, lower in 1907 than in 1897 and only slightly higher (less than five per cent) than in the year which shows the lowest average in the history of American railways.

*Digest of the hearings before the Committee on Interstate Commerce of the United States Senate, compiled by order of the Committee by Henry C. Adams and H. T. Newcomb. Senate Document No. 244, Fifty-ninth Congress, First Session, p. 77.

†Ibid. p. 77.

So far as the quality of the ton-mile unit is affected by changes in the geographical distribution of traffic the tendency between 1897 and 1907 was toward a higher quality, for traffic movement grew more rapidly in the regions where rates are normally higher than it did in the regions of lower rates. In the following statement the groups used by the Interstate Commerce Commission are arranged with the group in which ton-mileage increased most rapidly from 1897 to 1907 at the top, the group that increased next most rapidly in the second line and so on to the group that increased least rapidly at the bottom:

Group.	Tons of freight carried one mile. 1897.	1907.	Increase, per cent.	Average rate per ton per mile, in mills. In 1897.	In 1907
X.	3,133,623,734	11,252,450,440	259.09	12.75	11.63
VII.	2,633,860,958	9,300,234,849	253.10	11.48	9.33
VIII.	6,333,591,463	17,406,430,971	174.83	10.79	9.66
III.	17,587,334,609	47,994,909,002	172.89	6.05	5.98
V.	6,802,119,489	17,397,321,360	155.76	8.64	8.27
VI.	17,393,471,480	44,318,734,155	154.80	8.55	7.43
IX.	3,165,108,561	7,546,655,555	138.43	10.40	10.51
IV.	4,936,635,046	11,418,243,141	131.30	6.48	7.03
II.	29,579,613,559	63,455,243,659	114.52	6.75	6.55
I.	3,573,663,326	6,511,166,971	82.20	12.02	11.45
United States	95,139,022,225	236,601,390,103	148.69	7.98	7.59

It will be noted from the foregoing that the group in which the average rates were highest in both 1897 and 1907 shows the most rapid increase in traffic movement and that, with few exceptions, the regions of higher rates show more rapid augmentation of ton-mileage. This is exactly what might have been anticipated, for the highest average rates are usually to be found in the regions most scantily populated and, as these regions are filling up and are therefore those most rapidly growing in population and industry, they naturally show the greatest relative increases in freight tonnage. The only not-

able exception is furnished by New England, a region of high development but where traffic movement is largely of a character which imposes higher average rates. In the following table, the traffic increase is given for the regions that had ton-mile rate averages above and below the average for the whole country, in 1897:

	Ton mileage. In 1897.	Ton mileage. In 1907.	Increase, per cent.
Ton mile rates above the average	43,035,439,011	113,732,994,301	164.28
Ton mile rates below the average	52,103,583,214	122,868,395,802	135.82
Total	95,139,022,225	236,601,390,103	148.69

The region with rates above the average in 1897 had 45.23 per cent of the total ton-mileage in that year, and 48.07 per cent in the year 1907. Of the total increase in traffic movement 49.98 per cent was in this region. The precise effect that these changes in the geographical distribution of ton-mileage would have had upon the average ton-mile rate for the whole country is shown by the computation set forth in the following table:

Group	Ton mileage of 1907.	Ton-mile rates of 1897 in mills.	Product of ton-mileage of 1907 and ton-mile rates of 1897.
I.	6,511,166,971	12.02	$78,264,226.99
II.	63,455,243,659	6.75	428,322,894.70
III.	47,994,809,002	6.05	290,369,199.46
IV.	11,418,243,141	6.48	73,990,215.55
V.	17,397,321,360	8.64	150,312,856.55
VI.	44,318,734,155	8.55	378,925,177.03
VII.	9,300,234,849	11.48	106,766,696.07
VIII.	17,406,430,971	10.79	187,815,390.18
IX.	7,546,655,555	10.40	78,485,217.77
X.	11,252,450,440	12.75	143,468,743.11
United States.	236,601,390,103	....	$1,916,720,617.41

By dividing the aggregate of the products in the last column of the foregoing by the total ton-mileage shown in the second column, an average is obtained which represents the ton-mile rate that would have resulted in 1907

had the traffic of each group in that year moved in precisely the same volume in which it actually moved and had the average rates in each group been exactly the same as they were in 1897. This shows that, under the conditions assumed, the average ton-mile rate for the whole country would have been 8.10 mills or 0.12 mill higher than in 1897. This advance of 1.50 per cent would have been wholly due to the more rapid growth of traffic in the regions of normally higher rates. The chief significance of so small a change in so long a period is, really, to indicate that the ton-mile unit, so far from being of rapidly changing character, is actually, at least as far as it might be assumed to be affected by changes in the location of traffic movement, a fairly stable unit and thus an excellent measure of the rise or fall in rates. Whether the same conclusion is to be derived from a study of the changes in the proportion of the total movement made up of commodities of different grades and naturally taking different rates is now to be made the subject of inquiry.

Publication of the classified statistics of tonnage necessary for such an inquiry was begun by the Interstate Commerce Commission with the report for the year 1899. Consequently it is not practicable to extend the inquiry to a period prior to that year. The following statement shows the number of tons of freight of each of the classes of commodities named which were received by the railways for transportation in 1899, 1903, and 1907 and the proportion of the tonnage in each class to the total number of tons carried:

Class of commodity.	Tons. 1899.	1903.	1907.	Percentage of total tonnage. 1899.	1903.	1907.
Products of agriculture .	50,073,963	61,056,212	77.030,071	11.33	9.56	8.62
Products of animals	13,774,964	16,802,893	20,473,486	3.12	2.63	2.29
Products of mines	227,453,154	329,335,621	476,899,638	51.47	51.56	53.39
Products of forest	48,122,447	74,559,980	101,617,724	10.89	11.67	11.38
Manufactures	59,415,205	91,980,903	137,621,443	13.45	14.39	15.41
Merchandise	19,844,735	29,949,022	34,718,487	4.49	4.69	3.89
Miscellaneous	23,197,155	35,116,027	44,824,123	5.25	5.50	5.02
Total	441,881,623	638,800,658	893,184,972	100.00	100.00	100.00

It should be observed that the foregoing statement represents tons received for shipment regardless of the distance carried and, in consequence, does not throw the light upon traffic movement that would be available if it were possible to know the ton-mileage of each class of commodities. Nevertheless, the data undoubtedly convey some information as to the character of the ton-mile unit during the different years and the nature of the changes in its quality which are in progress. This will be made more evident by the following table showing comparisons for the years 1899 and 1907:

Class of commodity.	Tons. 1899.	1907.	Increase. Amount.	Per cent.
Products of agriculture	50,073,963	77,030,071	26,956,108	53.83
Products of animals	13,774,964	20,473,486	6,698,522	48.63
Products of mines	227,453,154	476,899,638	249,446,484	109.67
Products of forest	48,122,447	101,617,724	53,495,277	111.16
Manufactures	59,415,205	137,621,443	78,206,238	131.63
Merchandise	19,844,735	34,718,487	14,873,752	74.95
Miscellaneous	23,197,155	44,824,123	21,626,968	93.23
Total	441,881,623	893,184,972	451,303,349	102.13

Obviously the effect of the increases shown in the foregoing upon the quality of the average ton-mile must be in proportion as they have exceeded or fallen short of the average increase shown at the foot of the last column. There is no question that, in general, products of agriculture, animals, forests and mines are low-grade commodities, or that, on the other hand, the commodities

classed as manufactures, merchandise and miscellaneous are high-grade articles. An increase in excess of the general average increase in the first four classes named would tend to lower the quality of the average ton-mile while the opposite effect, that is a raising of the quality, would result if the last three classes should increase more rapidly than the increase in all tonnage. Adopting this classification the following shows the respective increases in high-grade and low-grade tonnage:

Class of commodity.	Tons.			
	1899.	1907.	Increase. Amount.	Per cent.
High-grade	102,457,095	217,164,053	114,706,958	111.96
Low-grade	339,424,528	676,020,919	336,596,391	99.17
Total	441,881,623	893,184,972	451,303,349	102.13

The considerably greater increase in the tonnage of high-grade articles indicated by the foregoing is scarcely within the possible margin of error in the classification but, in any event, what the figures certainly prove is the absence of any actually far-reaching change in the typical or average unit of traffic. That this conclusion extends to traffic movement is clearly probable.

MOVEMENT OF LOADED CARS.

Still another plain deduction from the official statistics supports the conclusion that the quality of the ton-mile average has not been lowered during recent years. Since the fiscal year 1901 the Interstate Commerce Commission has shown, annually, a classification of loaded freight cars accordingly as they have moved westward or southward, on the one hand, or eastward or northward, upon the other. It is a matter of common knowledge that, in gen-

eral, the coarser and cheaper articles of freight traffic move eastward and northward while the finer and more costly articles of traffic preponderate in the westward and southward movement. Therefore a relatively greater increase in the loaded freight car movement toward the West or South means a corresponding rise in the quality of the average ton-mile. Everyone knows that there was a relatively greater increase of this sort from 1897 to 1891, but unfortunately, the official statistics do not cover the years prior to 1901. The data for the years 1901 and 1907 appear below:

Group	Total number of loaded freight cars classified by direction of movement.		Number of loaded freight cars moving southward or westward.		Percentage of loaded freight cars moving southward or westward.	
	1901.	1907.	1901.	1907.	1901.	1907.
I.	147,277,249	266,167,549	59,344,040	115,280,667	40.29	43.31
II.	1,426,635,088	2,192,215,262	494,495,960	883,609,250	34.66	40.31
III.	1,467,331,953	2,027,708,882	657,604,962	964,129,961	44.82	47.55
IV.	406,331,071	544,565,406	146,367,137	220,397,204	36.02	40.47
V.	733,576,352	1,035,144,669	393,793,919	526,505,742	53.68	50.86
VI.	1,482,189,103	2,135,957,477	714,144,699	1,031,493,373	48.18	48.29
VII.	233,103,859	402,981,635	105,948,378	194,964,629	45.45	48.38
VIII.	775,407,114	1,061,946,655	378,453,439	547,886,036	48.81	51.59
IX.	344,590,530	456,997,306	201,837,024	270,209,838	58.57	59.13
X.	224,828,719	616,061,255	120,809,643	332,087,888	53.73	53.91
United States	7,241,271,038	10,739,746,096	3,272,799,201	5.086,564,588	45.20	47.36

The foregoing shows a slight increase in the westward and southward movement but is valuable chiefly as showing that there was, in this particular, no lowering in the quality of the ton-mile unit. It should be noted that the apparently slight increase of 2.16 per cent in westward and southward movement is equivalent to no less than 231,978,516 loaded cars.

LOWER CLASSIFICATION OF FREIGHT.

The evidence already marshalled, showing that the average rate per ton-mile has decreased and that the ton-

mile unit is, at least, of no lower quality than it was in 1897, is corroborated by a study of the successive classifications of freight in use in the region east of the Mississippi river and north of the James, Potomac and Ohio rivers. A very careful and comprehensive study of these classifications has been made for the especial purpose of aiding in the present discussion. In this study the classification in use in 1908 has been compared separately with those in use in 1898 and 1888 and the classification in use in 1898 with that used in 1888. Each comparison shows, as might have been expected, changes in both directions, but, in every case, the largely preponderating number of changes have been by the transfer of commodities from higher to lower classes, thus bringing about the application to them of lower rates of transportation.

The two following tables show the rates which would have been applied per one hundred pounds upon shipments from New York to Chicago of the articles that have been advanced or reduced in classification. As the absence of statistics of volume of movement for different classified articles has made necessary the adoption of a method of tabulation which ignores such differences it should be understood that, in fact, the preponderance of decreases is on articles which contribute most largely to the total tonnage while the reverse is true as to the greater number of increases in classification.

The table first following compares the classifications and rates of 1898 and 1908 in regard to shipments in less than car load quantities.

Increases.							Decreases.						
			Aggregate charge for 100 lbs. each of all articles increased if shipped from New York to Chicago.							Aggregate charge for 100 lbs. each of all articles decreased if shipped from New York to Chicago.			
					Increase.							Decrease.	
1898.	1908.	Number.	1898.	1908.	Amount.	Per cent.	1898.	1908.	Number.	1898.	1908.	Amount.	Per cent.
$1.87½	$2.25	1	$1.87½	$2.25	$0.37½	20.00	$2.25	$1.50	5	$11.25	$7.50	$3.75	33.33
1.50	2.25	2	3.00	4.50	1.50	50.00	1.87½	1.12½	3	5.62½	3.37½	2.25	40.00
1.50	1.87½	1	1.50	1.87½	.37½	25.00	1.50	1.12½	13	19.50	14.62½	4.87½	25.00
1.12½	1.50	7	7.87½	10.50	2.62½	33.33	1.50	.75	24	36.00	18.00	18.00	50.00
.75	2.25	1	.75	2.25	1.50	200.00	1.12½	.75	15	16.87½	11.25	5.62½	33.33
.75	1.50	18	13.50	27.00	13.50	100.00	1.12½	.65	4	4.50	2.60	1.90	42.22
.75	1.12½	19	14.25	21.37½	7.12½	50.00	.75	.65	53	39.75	34.45	5.30	13.33
.75	.93¾	2	1.50	1.87½	.37½	25.00	.75	.55	8	6.00	4.40	1.60	26.67
.65	.75	37	24.05	27.75	3.70	15.38	.75	.50	16	12.00	8.00	4.00	33.33
.50	1.50	1	.50	1.50	1.00	200.00	.75	.40	3	2.25	1.20	1.05	46.67
.50	.75	9	4.50	6.75	2.25	50.00	.75	.35	1	.75	.35	.40	53.33
.50	.65	27	13.50	17.55	4.05	30.00	.65	.55	18	11.70	9.90	1.80	15.38
.50	.55	169	84.50	92.95	8.45	10.00	.65	.50	67	43.55	33.50	10.05	23.08
.35	.65	6	2.10	3.90	1.80	85.71	.65	.40	9	5.85	3.60	2.25	38.46
.35	.50	44	15.40	22.00	6.60	42.86	.65	.35	8	5.20	2.80	2.40	46.15
.35	.40	280	98.00	112.00	14.00	14.29	.50	.40	25	12.50	10.00	2.50	20.00
.30	.40	1	.30	.40	.10	33.33	.50	.35	24	12.00	8.40	3.60	30.00
.30	.35	13	3.90	4.55	.65	16.67							
Total		638	$291.00	$360.97½	$69.97½	24.05	Total		296	$245.30	$173.95	$71.35	29.09

The foregoing shows that, between 1898 and 1908 there were 638 advances and 296 reductions in the classification of articles carried in less than carload quantities, but the 296 reductions amounted, on the basis of shipment of one hundred pounds each of all of the articles reduced, to an aggregate of $71.35, while the 638 advances, on the same basis, amounted to $69.97½. Shipments in carload quantities are more economically handled in many respects and there has been a wisely directed effort to adjust rates so as to stimulate such movement in cases in which it is practicable. The following table, similar to the preceding one in every other respect but relating wholly to the classification of articles when shipped in carload quantities, accordingly shows a much greater proportion of reductions:

Increases.							Decreases.						
			Aggregate charge for 100 lbs. each of all articles increased if shipped from New York to Chicago.							Aggregate charge for 100 lbs. each of all articles decreased if shipped from New York to Chicago.			
					Increase.							Decrease.	
1898.	1908.	Number.	1898.	1908.	Amount.	Per cent.	1898.	1908.	Number.	1898.	1908.	Amount.	Per cent.
$0.65	$1.12½	2	$1.30	$2.25	$0.95	73.08	$2.25	$0.75	2	$4.50	$1.50	$3.00	66.67
.65	.75	2	1.30	1.50	.20	15.38	2.25	.50	1	2.25	.50	1.75	77.78
.50	.75	3	1.50	2.25	.75	50.00	1.50	.75	4	6.00	3.00	3.00	50.00
.50	.65	23	11.50	14.95	3.45	30.00	1.50	.65	3	4.50	1.95	2.55	56.67
.50	.55	17	8.50	9.35	.85	10.00	1.50	.50	4	6.00	2.00	4.00	66.67
.35	1.50	1	.35	1.50	1.15	328.57	1.50	.35	2	3.00	.70	2.30	76.67
.35	.75	3	1.05	2.25	1.20	114.29	1.12½	.75	4	4.50	3.00	1.50	33.33
.35	.65	2	.70	1.30	.60	85.71	1.12½	.65	7	7.87½	4.55	3.32½	42.22
.35	.55	22	7.70	12.10	4.40	57.14	1.12½	.50	2	2.25	1.00	1.25	55.56
.35	.50	12	4.20	6.00	1.80	42.86	1.12½	.35	4	4.50	1.40	3.10	68.89
.35	.40	18	6.30	7.20	.90	14.29	.75	.65	42	31.50	27.30	4.20	13.33
.30	.75	2	.60	1.50	.90	150.00	.75	.50	34	25.50	17.00	8.50	33.33
.30	.65	4	1.20	2.60	1.40	116.67	.75	.40	3	2.25	1.20	1.05	46.67
.30	.55	1	.30	.55	.25	83.33	.75	.35	38	28.50	13.30	15.20	53.33
.30	.50	3	.90	1.50	.60	66.67	.75	.30	16	12.00	4.80	7.20	60.00
.30	.40	3	.90	1.20	.30	33.33	.65	.55	10	6.50	5.50	1.00	15.38
.30	.35	51	15.30	17.85	2.55	16.67	.65	.50	15	9.75	7.50	2.25	23.08
.25	.35	6	1.50	2.10	.60	40.00	.65	.40	1	.65	.40	.25	38.46
.25	.30	84	21.00	25.20	4.20	20.00	.65	.35	64	41.60	22.40	19.20	46.15
....	....	..	....	....	....	....	.65	.30	29	18.85	8.70	10.15	53.85
....	....	..	....	....	....	....	.65	.25	3	1.95	.75	1.20	61.54
....	....	..	....	....	....	....	.50	.40	3	1.50	1.20	.30	20.00
....	....	..	....	....	....	....	.50	.35	116	58.00	40.60	17.40	30.00
....	....	..	....	....	....	....	.50	.30	49	24.50	14.70	9.80	40.00
....	....	..	....	....	....	....	.35	.30	99	34.65	29.70	4.95	14.29
....	....	..	....	....	....	....	.35	.25	1	.35	.25	.10	28.57
....	....	..	....	....	....	....	.30	.25	24	7.20	6.00	1.20	16.67
Total		259	$86.10	$113.15	$27.05	31.42	Total		580	$350.62½	$220.90	$129.72½	37.00

Thus, in respect to the more numerous and, therefore, more important shipments in carload quantities it appears that there were 580 reductions as against 259 advances and that the aggregate of the reductions was $129.72½ while that of the advances was, only $27.05. The following summary of the two preceding tables is highly suggestive:

	Less than carload shipments.	Carload shipments.	All shipments.
Reclassifications:			
Number	934	839	1773
Reductions—			
Number	296	580	876
Per cent	31.69	69.13	49.41
Cost of shipment of 100 lbs. each of all articles:			
In 1898	$536.30	$436.72½	$973.02½
In 1908	534.92½	334.05	868.97½
Decrease—			
Amount	$1.37½	$102.67½	$104.05
Per cent	0.26	23.51	10.69

The above summary shows that the net result of all the classification changes of the ten-year period under comparison is a reduction in the charges for moving those articles of 10.69 per cent. That is to say, although, dollar for dollar, the money received by the railways will pay for much less, in labor or supplies, than it would ten years ago, the railways offer to carry as much of the reclassified articles for $89.31 in 1908 as they carried for $100.00 in 1898. This comparison takes account of all articles which have either been lowered or advanced in classification but excludes those that have remained unchanged. It also takes no account of the differences in volume of movement.

Similar comparisons between the years 1888 and 1908 show similar results but with more numerous and greater reductions. These results are summarized below:

	Less than carload shipments.	Carload shipments.	All shipments.
Reclassifications—			
Number	913	912	1,825
Reductions—			
Number	387	684	1,071
Per cent	42.39	75.00	58.68
Cost of shipment of 100 lbs. each of all articles—			
In 1888	$586.30	$528.02½	$1,114.32½
In 1908	569.40	349.65	919.05
Decrease—			
Amount	$16.90	$178.37½	$195.27½
Per cent	2.88	33.78	17.52

The facts disclosed by a similar tabulation based upon analyses of the classifications in force in the years 1888 and 1898 are summarized in the following table:

	Less than carload shipments.	Carload shipments.	All shipments.
Reclassifications			
Number	574	673	1247
Reductions			
Number	320	514	834
Per cent	55.75	76.37	66.88
Cost of shipment of 100 lbs. each of all articles			
In 1888	$417.17½	$404.12½	$821.30
In 1898	393.02½	273.32½	666.35
Decrease			
Amount	$24.15	$130.80	$154.95
Per cent	5.79	32.37	18.87

The detailed tables which are the bases of the two foregoing summaries appear in Appendix F, at pages 107 to 111.

PRICES AND ACTUAL RATES.

Comparisons between actual prices of commodities shipped by rail and typical freight charges on the same articles, for 1897 and 1907, demonstrate the fact that while prices have almost uniformly advanced the greater number of rates have remained stationary while among those which have changed the reductions are as numerous as the advances and exceed the latter in extent and importance. In the table which follows the prices are those

collected and reported by the Bureau of Labor of the United States Department of Commerce and Labor and the rates are those between principal points of shipment. The figures in the last two columns show the respective relations of the prices of 1907, the last officially reported, and the rates of the same year to the prices and rates of 1897.

COMMODITIES.	Actual prices. 1897.	Actual prices. 1907.	Freight rates per 100 pounds, except as otherwise indicated. From	To	1897 L. C. L.	1897 C. L.	1907 L. C. L.	1907 C. L.	1907 compared with 1897, per cent. Prices.	Freight rates.
Cloths and Clothing—										
Bags (2 bush.) .....per bag	$.13	$.19	New York.	Chicago.	..	*.50	..	*.50	146	100
Blankets (all wool) .....lb.	.75	1.00	Boston.	Chicago.	.75	..	.75	..	133	100
(cotton warp) .....lb.	.65	.80	Boston.	Chicago.	.75	..	.75	..	123	100
(cotton and wool) .....lb.	.42	.60	Boston.	Chicago.	.75	..	.75	..	143	100
Boots and Shoes (men's brogans) pr.	.95	1.27	Boston.	Chicago.	.75	..	75	..	134	100
(Men's goodyear welt) .....pr.	2.40	2.80	Boston.	Chicago.	.75	..	.75	..	117	100
(Men's splits) .....12 prs.	16.00	26.17	Boston.	Chicago.	.75	..	.75	..	164	100
(Men's vici) .....pr.	2.00	2.50	Boston.	Chicago.	.75	..	.75	..	125	100
(Women's) .....pr.	.85	1.00	Boston.	Chicago.	.75	..	.75	..	118	100
Broadcloth (1st quality) .....yd.	1.70	2.02	New York.	Chicago.	.75	..	.75	..	119	100
Calico (Cocheco prints) .....yd.	.05	.06	New York.	Chicago.	.50	..	.55	..	120	110
Carpets (Brussels) .....yd.	.96	1.25	New York.	Chicago.	.75	..	.75	..	130	100
(Ingrain) .....yd.	.43	.58	New York.	Chicago.	.75	..	.75	..	135	100
(Wilton) .....yd.	1.73	2.28	New York.	Chicago.	.75	..	.75	..	132	100
Cotton Flannels (2¾) .....lb.	.06	.10	Boston.	Chicago.	.50	..	.55	..	167	110
" " (3½) .....lb.	.06	.08	Boston.	Chicago.	.50	..	.55	..	133	110
Cotton Thread (6 cord) .....spool	.03	.04	New York.	Chicago.	.75	..	.75	..	133	100
Cotton Yarn (white) .....lb.	.15	.22	New York.	Chicago.	.50	..	.55	..	147	110
" 22/1 .....lb.	.18	.26	New York.	Chicago.	.50	..	.55	..	144	110
Denims .....yd.	.09	.14	New York.	Chicago.	.50	..	.55	..	156	110
Drillings (brown) .....yd.	.05	.08	New York.	Chicago.	.50	..	.55	..	160	110
" (30 inch) .....yd.	.05	.08	New York.	Chicago.	.50	..	.55	..	160	110
Flannels (white) .....lb.	.31	.46	New York.	Chicago.	.75	..	.75	..	148	100
Ginghams (Amoskeag) .....lb.	.04	.07	New York.	Chicago.	.50	..	.55	..	175	110
" (Lancaster) .....lb.	.05	.07	New York.	Chicago.	.50	..	.55	..	140	110
Horse Blankets .....lb.	.57	.75	New York.	Chicago.	.75	..	.75	..	132	100
Hosiery (men's) .....12 prs.	.78	.74	New York.	Chicago.	.75	..	.75	..	95	100
" .....12 prs.	.65	.75	New York.	Chicago.	.75	..	.75	..	115	100
(women's) .....12 prs.	1.85	2.03	New York.	Chicago.	.75	..	.75	..	110	100
" .....12 prs.	.76	.83	New York.	Chicago.	.75	..	.75	..	109	100
Leather (harness, oak) .....lb.	.24	.37	New York.	Chicago.	..	.35	..	.35	154	100
(sole, hemlock) .....lb.	.20	.26	New York.	Chicago.	..	.35	..	.35	130	100
(oak) .....lb.	.31	.38	New York.	Chicago.	..	.35	..	.35	123	100
(wax calf) .....sq. ft.	.62	.77	New York.	Chicago.	..	.35	..	.35	124	100

*Rates apply to cotton bags, N. O. S.

COMMODITIES.	Actual prices. 1897.	Actual prices. 1907.	Freight rates per 100 pounds, except as otherwise indicated. From	To	1897. L. C. L.	1897. C. L.	1907. L. C. L.	1907. C. L.	1907 compared with 1897, per cent. Prices.	Freight rates.
Cloths and Clothing—(Continued.)										
Linen Shoe Thread .....lb.	.85	.89	New York.	Chicago.	.75	..	.75	..	105	100
Linen Thread (3 cord) .doz. spools	.87	.91	New York.	Chicago.	.75	..	.75	..	105	100
Overcoatings (beaver) .....yd.	1.77	..	New York.	Chicago.	.75	..	.75	..	..	100
(chinchilla) .....yd.	1.88	2.56	New York.	Chicago.	.75	..	.75	..	136	100
(chinchilla cotton warp) ...yd.	.46	.49	New York.	Chicago.	.75	..	.75	..	107	100
(covert cloth) .....yd.	1.95	2.26	New York.	Chicago.	.75	..	.75	..	116	100
(kersey) .....yd.	1.18	1.97	New York.	Chicago.	.75	..	.75	..	167	100
Print Cloths .....yd.	.02	.05	New York.	Chicago.	*.50	..	*.55	..	250	*110
					†.75	..	†.75	..	250	†100
Shawls (all wool) .....each	4.10	2.06	New York.	Chicago.	.75	..	.75	..	50	100
Sheetings (Atlantic) .....yd.	.16	.23	New York.	Chicago.	.50	..	.55	..	144	110
(Pepperell) .....yd.	.17	.29	New York.	Chicago.	.50	..	.55	..	171	110
(Wamsutta) .....yd.	.29	.31	New York.	Chicago.	.50	..	.55	..	107	110
(Brown Atlantic) .....yd.	.05	.08	New York.	Chicago.	.50	..	.55	..	160	110
(Brown Indian Head) .....yd.	.06	.08	New York.	Chicago.	.50	..	.55	..	133	110
(Brown Pepperell) .....yd.	.05	.07	New York.	Chicago.	.50	..	.55	..	140	110
(Brown Stark) .....yd.	.05	.08	New York.	Chicago.	.50	..	.55	..	160	110
Shirtings (Fruit Loom) .....yd.	.06	.11	New York.	Chicago.	.75	..	.75	..	183	100
(Hope) .....yd.	.06	.06	New York.	Chicago.	.75	..	.75	..	100	100
(Lonsdale) .....yd.	.06	.10	New York.	Chicago.	.75	..	.75	..	167	100
(N. Y. Mills) .....yd.	.08	.12	New York.	Chicago.	.75	..	.75	..	150	100
(Wamsutta) .....yd.	.09	.11	New York.	Chicago.	.75	..	.75	..	122	100
Silk (Japan) .....lb.	3.46	5.00	San Francisco.	New York.	‡3.70	..	‡3.70	..	146	100
Suitings (clay worsted) .....yd.	.76	1.17	New York.	Chicago.	.75	..	.75	..	154	100
(clay worsted) .....yd.	.94	1.40	New York.	Chicago.	.75	..	.75	..	149	100
(indigo blue) .....yd.	1.05	1.71	New York.	Chicago.	.75	..	.75	..	163	100
(indigo blue) .....yd.	1.67	2.42	New York.	Chicago.	.75	..	.75	..	145	100
(serge) .....yd.	.66	1.05	New York.	Chicago.	.75	..	.75	..	159	100
Tickings (Amoskeag) .....yd.	.10	.14	New York.	Chicago.	.50	..	.55	..	140	110

*If wholly of cotton.
†If other than cotton.
‡Rates apply regardless of quantity shipped.

COMMODITIES.	Actual prices.		Freight rates per 100 pounds, except as otherwise indicated.						1907 compared with 1897, per cent.	
					1897.		1907.			
	1897.	1907.	From	To	L. C. L.	C. L.	L. C. L.	C. L.	Prices.	Freight rates.
Cloths and Clothing—(Continued.)										
Trouserings (fancy worsted) ....yd.	1.80	2.45	New York.	Chicago.	.75	..	.75	..	136	100
Underwear (all wool) ..12 garm'ts.	21.60	27.00	New York.	Chicago.	.75	..	.75	..	125	100
(52 per cent. wool) ..12 garm'ts.	14.40	18.00	New York.	Chicago.	.75	..	.75	..	125	100
Womens' Dress Goods (Alpaca) yd.	.06	.13	New York.	Chicago.	.75	..	.75	..	217	100
(Cashmere) .....yd.	.24	.39	New York.	Chicago.	.75	..	.75	..	162	100
(Cashmere) .....yd.	.07	.19	New York.	Chicago.	.75	..	.75	..	271	100
(Cashmere) .....yd.	.14	.22	New York.	Chicago.	.75	..	.75	..	157	100
(Cashmere) .....yd.	.08	.20	New York.	Chicago.	.75	..	.75	..	250	100
(sackings) .....yd.	.42	.65	New York.	Chicago.	.75	..	.75	..	155	100
Worsted Yarns .....lb.	.85	1.30	New York.	Chicago.	.75	..	.75	..	153	100
Worsted Yarns .....lb.	.82	1.29	New York.	Chicago.	.75	..	.75	..	157	100
Drugs and Chemicals—										
Alcohol (grain) .....gal.	2.28	2.52	Peoria.	New York.	..	.38½	..	.38½	111	100
(wood) .....gal.	.70	.40	New York.	Chicago.	..	.35	..	.32½	57	93
Alum (lump) .....lb.	.02	.02	New York.	Chicago.	..	.25	..	.23½	100	94
Brimstone (crude) .....ton	20.13	21.50	New York.	Chicago.	..	.18	..	.16	107	89
Glycerine (refined) .....lb.	.13	.14	New York.	Chicago.	..	.35	..	.35	108	100
Muriatic Acid .....lb.	.01	.01	New York.	Chicago.	..	.30	..	.30	100	100
Opium .....lb.	2.34	4.95	New York.	Chicago.	.75	.50	.75	.50	212	100
Quinine .....oz.	.18	.18	New York.	Chicago.	.75	.50	.75	.50	100	100
Sulphuric Acid .....lb.	.01	.01	New York.	Chicago.	..	.30	..	.30	100	100
Farm Products—										
Barley .....bu.	.32	.77	Chicago.	New York.	..	.22½	..	.19½	241	87
Cattle (choice to extra) ....100 lbs.	5.23	6.54	Chicago.	New York.	..	.28	..	.28	125	100
(good to choice) .....100 lbs.	4.77	5.81	Chicago.	New York.	..	.28	..	.28	122	100
Corn (No. 2, cash) .....bu.	.25	.53	Chicago.	New York.	..	.22½	..	.19½	212	87
Cotton (upland middling) .....lb.	.07	.12	Cairo.	New York.	..	*.34½	..	*.34½	171	100
					..	†.44½	..	†44½		
Flaxseed (No. 1) .....bu.	.87	1.18	Chicago.	New York.	..	.25	..	.25	136	100
Hay (timothy) .....ton	8.44	16.94	Indianapolis.	New York.	..	.28	..	.28	201	122

*Compressed.
†Uncompressed.

COMMODITIES.	Actual prices.		Freight rates per 100 pounds, except as otherwise indicated.						1907 compared with 1897, per cent.	
					1897.		1907.			
	1897.	1907.	From	To	L. C. L.	C. L.	L. C. L.	C. L.	Prices.	Freight rates.
Farm Products—(Continued.)										
Hides (green) .....lb.	.10	.15	Chicago.	New York.	..	.30	..	.30	150	100
Hogs (heavy) .....100 lbs.	3.59	6.08	Chicago.	New York.	..	.30	..	.30	169	100
Hogs (light) .....100 lbs.	3.72	6.22	Chicago.	New York.	..	.30	..	.30	167	100
Oats (cash) .....bu.	.18	.45	Chicago.	New York.	..	.22½	..	.19½	250	87
Rye (No. 2 cash) .....bu.	.40	.77	Chicago.	New York.	..	.22½	..	.19½	192	87
Sheep (native) .....100 lbs.	3.50	4.90	Chicago.	New York.	..	.30	..	.30	140	100
(Western) .....100 lbs.	3.77	4.88	Chicago.	New York.	..	.30	..	.30	129	100
Wheat (cash) .....bu.	.79	.91	Chicago.	New York.	..	.22½	..	.19½	115	87
Fuel and Lighting—										
Candles .....lb.	.07	.07	New York.	Chicago.	..	.30	..	.30	100	100
Coal (chestnut) .....ton	3.74	4.82	Collieries.	Tide Water.					129	
(anthracite) .....ton	3.25	4.20			..	‡1.55	..	‡1.55	129	100
(egg) .....ton	3.80	4.82		Buffalo.	..	‡2.25	..	‡2.00	127	89
(stove) .....ton	4.02	4.82			..	..	..	..	120	
(bituminous) .....ton	.83	1.54	Meyersdale Region.	Jersey City.	..	‡2.27½	..	‡1.85	186	81
(bituminous) .....ton	2.44	3.24			..	..	..	..	133	
Coke .....ton	1.62	2.83	West Virginia region.	Jersey City.	..	§§2.24	..	§§2.15	175	96
Feeds etc.—										
Beans (medium, choice) .....bu.	1.04	1.78	Milwaukee.	New York.	..	.30	..	.30	171	100
Butter (creamery, Elgin) .....lb.	.18	.28	Chicago.	New York.	..	***.65	..	***.65	156	100
Cheese (N. Y. cream) .....lb.	.10	.14	New York.	Chicago.	..	**.50	..	**.50	140	100
Coffee (Rio. No. 7) .....lb.	.08	.07	New York.	Chicago.	..	.25	..	.27	88	108
Eggs (fancy) .....doz.	.17	.28	Chicago.	New York.	..	.65	..	.65	165	100
Fish (cod, dry) .....quintal	4.52	7.74	Boston.	Chicago.	.30	..	.40	..	171	133
(mackerel, salt) .....bbl.	12.23	13.92	New York.	Chicago.	..	.25	..	.30	114	120
(salmon, canned) .....12 cans	1.34	1.67	N. P. C'st.	New York.	..	.75	..	.75	125	100

‡Per gross ton.

§§Per ten of 2,000 pounds.

***In wood.

**In boxes.

COMMODITIES.	Actual prices.		Freight rates per 100 pounds, except as otherwise indicated.						1907 compared with 1897, per cent.	
					1897.		1907.			
	1897.	1907.	From	To	L. C. L.	C. L.	L. C. L.	C. L.	Prices.	Freight rates.
Foods, etc.,—(Continued.)										
Flour (buckwheat) .....100 lbs.	1.47	2.57	Chicago.	New York.	..	.22½	..	.19½	175	87
(rye) .....bbl.	2.81	4.60	Chicago.	New York.	..	.22½	..	.19½	164	87
(wheat, spring) .....bbl.	4.59	4.88	Chicago.	New York.	..	.22½	..	.19½	106	87
(wheat, winter) .....bbl.	4.36	3.99	Chicago.	New York.	..	.22½	..	.19½	92	87
Fruit (apples, evaporated) .....lb.	.06	.08	New York.	Chicago.	..	.35	..	.35	133	100
(apples, dried) .....lb.	.03	.06	New York.	Chicago.	..	.35	..	.35	200	100
(currants, in barrels) .....lb.	.05	.07	New York.	Chicago.	..	.35	..	.35	140	100
(prunes, California) .....lb.	.05	.06	San Francisco.	New York.	..	**1.00	..	**1.00	120	100
(raisins, California) .....box	1.40	1.63	San Francisco.	New York.	..	††1.20	..	††1.20	116	100
Glucose .....100 lbs.	1.22	2.26	Chicago.	New York.	..	.22½	..	.25	185	111
Lard (prime contract) .....lb.	.04	.09	Chicago.	New York.	..	.30	..	.30	225	100
Meal (corn, white) .....100 lbs.	.82	1.36	Chicago.	New York.	..	.22½	..	.19½	166	87
(corn, yellow) .....100 lbs.	.76	1.36	Chicago.	New York.	..	.22½	..	.19½	179	87
Meat (bacon, sides) .....lb.	.05	.10	Chicago.	New York.	..	.30	..	.30	200	100
(bacon, short rib sides) .....lb.	.05	.09	Chicago.	New York.	..	.30	..	.30	180	100
(beef, fresh sides) .....lb.	.08	.09	Chicago.	New York.	..	.45	..	.45	112	100
(beef, salt mess) .....bbl.	7.68	9.82	Chicago.	New York.	..	.30	..	.30	128	100
(beef, salt hams) .....bbl.	22.63	26.05	Chicago.	New York.	..	.30	..	.30	115	100
(hams, smoked) .....lb.	.09	.13	Chicago.	New York.	..	.30	..	.30	144	100
(mutton, dressed) .....lb.	.07	.09	Chicago.	New York.	..	.45	..	.45	129	100
(pork, salt mess) .....bbl.	8.91	17.57	Chicago.	New York.	..	.30	..	.30	197	100
Molasses .....gal.	.26	.41	New York.	Chicago.	..	.30	..	.30	158	100
Rice (domestic, choice) .....lb.	.05	.05	New York.	Chicago.	..	.25	..	.25	100	100
Salt (American) .....bbl.	.66	.79	N. Y. Salt Shipping Wells.	Chicago.	..	.11⅔	..	.14	120	120
Soda (bicarbonate) .....lb.	.02	.01	Syracuse.	Chicago.	..	.14	..	.14½	50	104
Spices (nutmegs) .....lb.	.34	.14	New York.	Chicago.	.75	..	.65	..	41	87
(pepper) .....lb.	.07	.10	New York.	Chicago.	..	.35	..	.35	143	100
Starch (pure corn) .....lb.	.05	.06	Chicago.	New York.	..	22½	..	.19½	120	87

**In boxes.
††In sacks.

COMMODITIES.	Actual prices.		Freight rates per 100 pounds, except as otherwise indicated.						1907 compared with 1897, per cent.	
					1897		1907			
	1897.	1907.	From	To	L. C. L.	C. L.	L. C. L.	C. L.	Prices.	Freight rates.
Foods, etc.,—(Continued.)										
Sugar (89° fair refining) .....lb.	.03	.03	New York.	Chicago.	..	.25	..	.26	100	104
(90° centrifugal) .....lb.	.04	.04	New York.	Chicago.	..	.25	..	.26	100	104
(granulated) .....lb.	.04	.05	New York.	Chicago.	..	.25	..	.26	125	104
Tallow .....lb.	.03	.06	Chicago.	New York.	..	.30	..	.30	200	100
Vinegar (cider) .....gal.	.13	.17	Buffalo.	New York.	..	.12	..	.13	131	108
House Furnishing Goods—										
Earthenware (plates, cream) ..doz.	.38	.44	New York.	Chicago.	..	.30	..	.30	116	100
(plates, white) .....doz.	.40	.46	New York.	Chicago.	..	.30	..	.30	115	100
Cups and saucers (white) ..gross	3.10	3.39	New York.	Chicago.	..	.30	..	.30	109	100
Bedroom Sets (ash) .....set	8.75	14.50	Grand Rapids.	New York.	..	.60	..	.46	166	77
Chairs .....doz.	5.00	10.00	Grand Rapids.	New York.	..	.69	..	.37	200	54
Chairs (kitchen) .....doz.	3.50	5.79	Grand Rapids.	New York.	..	.69	..	.37	165	54
Tables (kitchen) .....doz.	13.80	18.00	Grand Rapids.	New York.	..	.60	..	.46	130	77
Glassware (nappies) .....doz.	.10	.14	New York.	Chicago.	..	.50	..	.35	140	70
(pitchers) .....doz.	1.00	1.05	New York.	Chicago.	..	.50	..	.35	105	70
(tumblers) .....doz.	.17	.15	New York.	Chicago.	..	.30	..	.30	88	100
Cutlery (carvers) .....pr.	.75	.80	New York.	Chicago.	*.75	..	*.75	..	107	100
(knives and forks) .....gross	5.00	6.48	New York.	Chicago.	†.65	..	†.65	..	130	100
Woodenware (pails) .....doz.	1.24	1.97	Grand Rapids.	Philadelphia.	..	.27	..	.32	159	119
(tubs) .....nest 3	1.25	1.60	Grand Rapids.	Philadelphia.	..	.27	..	.32	128	119
Lumber and Building Materials—										
Brick (common domestic) .....M.	4.94	6.16	New York.	Chicago.	..	.25	..	.22½	125	90
Cement (Portland) .....bbl.	1.97	1.65	New York.	Chicago.	..	.17	..	.20	84	118
(Rosendale) .....bbl.	.75	.95	New York.	Chicago.	..	.17	..	.20	127	118
Doors (pine) .....door	.81	1.88	Buffalo.	New York.	..	.16	..	.16	232	100
Hemlock .....M. ft.	11.00	22.25	Cincinnati.	New York.	..	.19	..	.19	202	100
Linseed Oil (raw) .....gal.	.33	.43	Chicago.	New York.	..	.30	..	.30	130	100
Maple (hard) .....M. ft.	26.50	32.25	Saginaw.	New York.	..	.21	..	.21	122	100

*Plated.
†Not plated.

COMMODITIES.	Actual prices. 1897.	Actual prices. 1907.	Freight rates per 100 pounds, except as otherwise indicated. From	To	1897. L. C. L.	1897. C. L.	1907. L. C. L.	1907. C. L.	1907 compared with 1897, per cent. Prices.	Freight rates.
Lumber and Building Materials—(Continued.)										
Oak (white, plain) .....M. ft.	36.25	55.21	Cincinnati.	New York.	..	.19	..	.19	152	100
(white, quartered) .....M. ft.	53.83	80.00	Cincinnati.	New York.	..	.19	..	.19	149	100
Oxide of zinc .....lb.	.04	.05	New York.	Chicago.	..	.30	..	.25	125	83
Pine (white boards No. 2) ...M. ft.	15.83	37.42	Buffalo.	New York.	..	.13	..	.13	236	100
(white uppers) .....M. ft.	46.33	97.08	Buffalo.	New York.	..	.13	..	.13	210	100
(yellow) .....M. ft.	.16.44	30.50	Cincinnati.	New York.	..	.19	..	.19	186	100
Plate Glass (polished).....sq. ft.	.20	.23	New York.	Chicago.	.75	.65	.75	.50	115	89
(polished) .....sq. ft.	.32	.34	Pittsburg.	New York.	.45	.39	.45	.30	106	89
Putty .....lb.	.01	.01	New York.	Chicago.	..	.30	..	.30	100	100
Resin .....bbl.	1.61	4.38	New York.	Chicago.	..	.25	..	.25	272	100
Shingles (cypress) .....M. ft.	2.35	4.23	Cincinnati.	New York.	..	.19	..	.19	180	100
(white pine) .....M. ft.	3.54	2.69	Cincinnati.	New York.	..	.19	..	.19	76	100
Tar .....bbl.	1.05	2.33	New York.	Chicago.	..	.18	..	.22	222	122
Turpentine (spirits) .....gal.	.29	.63	New York.	Chicago.	..	*.30	..	*.30	217	100
					..	†.25	..	†.30	217	120
Window Glass (American) ..50 ft.	2.20	2.81	Pittsburg.	New York.	.25½	.18	.24	.18	128	97
(American) .....50 ft.	1.96	2.24	Pittsburg.	New York.	.25½	.18	.24	.18	114	97
Metals and Implements—										
Augers .....each	.14	.36	New York.	Chicago.	.65	..	.50	..	257	77
Axes (Yankee) .....each	.39	.68	New York.	Chicago.	..	.30	..	.30	174	100
Bar Iron (from mill) .....lb.	.01	.02	Pittsburg.	Chicago.	.18	.15	.20½	.17	200	113
Barb Wire .....100 lbs.	1.80	2.63	Pittsburg.	Chicago.	.18	.15	.20½	.17	146	113
Butts (loose joint, cast) .....pr.	..03	.04	New York.	Chicago.	..	.30	..	.30	133	100
Chisels ..... each	.17	.44	New York.	Chicago.	.65	..	.50	..	259	77
Copper (ingot) .....lb.	.11	.21	New York.	Chicago.	..	‖.25	..	‖.25	191	100
					..	**.35	..	**.36	191	86
(sheet) .....lb.	.15	.28	New York.	Chicago.	..	.35	..	.35	187	100
Copper wire .....lb.	.14	.24	New York.	Chicago.	..	.35	..	.35	171	100
Door-knobs .....pr.	.17	.45	New York.	Chicago.	.50	..	.50	..	265	100
Files (bastard) .....doz.	.81	1.00	New York.	Chicago.	.50	..	.50	..	123	100

*In wood.
†In tank cars.
**Over $100.00 valuation per ton.
‖Under $100.00 valuation per ton.

COMMODITIES.	Actual prices. 1897.	Actual prices. 1907.	Freight rates per 100 pounds, except as otherwise indicated. From	To	1897. L. C. L.	1897. C. L.	1907. L. C. L.	1907. C. L.	1907 compared with 1897, per cent. Prices.	Freight rates.
Metals and Implements—(Continued.)										
Hammers .....each	.38	.47	New York.	Chicago.	.50	..	††.50	..	124	100
					.50	..	§§.40	..	124	80
Lead (pig) .....lb.	.04	.06	E. St. Louis.	New York.	..	.29	..	.20½	150	71
Lead Pipe .....100 lbs.	4.32	6.71	New York.	Chicago.	..	.35	..	.35	155	100
Locks .....each	.08	.20	New York.	Chicago.	.65	..	.50	..	250	77
Nails (cut, 8 penny) .....100 lbs.	1.33	2.16	Pittsburg.	Chicago.	.18	.15	.20½	.17	162	114
(wire, 8 penny) .....100 lbs.	1.49	2.12	Pittsburg.	Chicago.	.18	.15	.20½	.17	142	114
Pig Iron (Bessemer) .....ton	10.13	22.84	Pittsburg.	Chicago.	..	*2.20	..	*2.75	225	125
(foundry No. 1.).....ton	12.10	23.90	Pittsburg.	Chicago.	..	*2.20	..	*2.75	198	125
(foundry No. 2.).....ton	10.10	23.87	Pittsburg.	Chicago.	..	*2.20	..	*2.75	236	125
(gray forge) .....ton	8.80	20.99	Pittsburg.	Chicago.	..	*2.20	..	*2.75	239	125
Planes (Bailey No. 5) .....each	1.23	1.53	New York.	Chicago.	.65	..	.50	..	124	77
Saws (cross-cut) .....each	1.60	1.60	Philadelphia.	Chicago.	.59	..	.48	..	100	81
(hand) .....doz.	12.60	12.95	Philadelphia.	Chicago.	.59	..	.48	..	103	81
Shovels (Ames No. 2) .....doz.	7.93	7.84	New York.	Chicago.	..	.30	..	.30	99	100
Spelter (Western) .....lb.	.04	.06	Chicago.	New York.	..	.25	..	.17½	150	70
Steel Billets .....ton	15.08	29.25	Pittsburg.	New York.	..	*2.60	..	*2.60	194	100
Steel Rails .....ton	18.75	28.00	Pittsburg.	New York.	..	*2.40	..	*2.60	149	108
Steel Sheets (black) .....lb.	.02	.03	Pittsburg.	New York.	.18	.15	.18¼	.15¼	150	102
Tin (pig) .....lb.	.14	.39	Pittsburg.	New York.	.30	.18	.30	.18	279	100
Tin Plates (domestic) .....100 lbs.	3.18	4.09	Pittsburg.	New York.	.21	.18	.21	.18	129	100
(imported) .....108 lbs.	3.90	..	New York.	Chicago.	..	.30	..	.30	..	100
Trowels .....each	.34	.34	New York.	Chicago.	.65	..	.50	..	100	77
Vises .....each	3.50	5.75	New York.	Chicago.	..	.30	..	.30	164	100
Wood Screws (one inch) .....gross	.09	.12	New York.	Chicago.	..	.30	..	.30	133	100
Zinc (sheet) .....100 lbs.	4.94	7.49	New York.	Chicago.	..	.25	..	.25	152	100
Miscellaneous—										
Cotton Seed Meal .....2,000 lbs.	20.44	28.70	Louisville.	New York.	..	.22½	..	19½	140	87
Cotton Seed Oil .....gal.	.24	.49	Louisville.	New York.	..	.30	..	.30	204	100
Jute (raw).....lb.	.04	.05	New York.	Chicago.	..	.25	..	.30	125	120

††With handles.
§§Without handles.

*Per gross ton.

COMMODITIES.	Actual prices.		Freight rates per 100 pounds, except as otherwise indicated.						1907 compared with 1897, per cent.	
					1897.		1907.			
	1897.	1907.	From	To	L. C. L.	C. L.	L. C. L.	C. L.	Prices.	Freight rates.
Miscellaneous—(Continued.)										
Malt (Western) .....bu.	.54	1.03	Chicago.	New York.	..	.22½	..	.19½	191	87
Paper (news) .....lb.	.03	.02	New York.	Chicago.	..	.25	..	.25	67	100
(wrapping) .....lb.	.06	.05	New York.	Chicago.					83	
Proof Spirits .....gal.	1.18	1.31	Peoria.	New York.	..	.38½	..	.38½	111	100
Rope (Manila) .....lb.	.06	.13	New York.	Chicago.	..	.25	..	.27½	217	110
Soap (Castile) .....lb.	.05	.07	Cincinnati.	New York.	..	.21½	..	.26	140	121
Starch (laundry) .....lb.	.03	.04	New York.	Chicago.	..	.25	..	.25	133	100
Tobacco (plug) .....lb.	.38	.47	Cincinnati.	New York.	.43½	..	.43½	..	124	100
(smoking) .....lb.	.50	.60	Cincinnati.	New York.	.65	..	.65	..	120	100

Examination of the foregoing table shows that it contains the prices in 1897 and 1907 of 229 articles and that among these 204 prices or 89.08 per cent of the total were increased. The rates on forty-nine of these articles were advanced an average of 13.14 per cent and the rates on forty-eight of them were reduced an average of 16.44 per cent. Other conclusions are shown in the following summary table:

Item.	Number.	Per cent. of total.	Aggregate percentage of changes.	Average changes, per cent.
Prices—				
Advanced	204	89.08	11,340	55.59
Reduced	13	5.68	330	25.38
Unchanged	12	5.24	....	....
Total	229	100.00	....	....
Rates advanced—				
Prices advanced	44	19.22	606	13.77
Prices reduced	3	1.31	30	10.00
Prices unchanged	2	.87	8	4.00
Total	49	21.40	644	13.14
Rates reduced—				
Prices advanced	42	18.34	708	16.86
Prices reduced	3	1.31	33	11.00
Prices unchanged	3	1.31	48	16.00
Total	48	20.96	789	16.44
Rates unchanged—				
Prices advanced	118	51.52	....	....
Prices reduced	7	3.06	....	....
Prices unchanged	7	3.06	....	....
Total	132	57.64	....	....

The foregoing shows that while prices were advanced for 204 of the 229 articles, or 89.08 per cent of the entire number included in the table, the freight rates on the same articles, as expressed in money, were advanced in but forty-nine instances, or 21.40 per cent of the total, money rates were reduced in forty-eight instances, or 20.96 per cent of the total, and remained stationary in 118 instances, or 57.64 per cent of the total. Of the rates advanced forty-four were in cases in which the prices had also advanced and of the rates reduced, forty-two applied to articles which had advanced in price. Even as to the

commodities which had advanced in price, the average advance being over fifty-five per cent, money rates were advanced in but forty-four instances out of 204 and the average advance was but 13.77 per cent and there were forty-two reductions in money rates, such reductions averaging 16.86 per cent.

SIGNIFICANCE OF THE DEPRECIATION OF MONEY.

It has now been fully demonstrated (first) that the railways have to pay much more, probably not less on the average than twenty-five per cent more, for everything they require in the conduct of their business, including labor, than they did ten years ago, (second) that those who make use of railway services receive much more, probably not less on the average than twenty-five per cent more, for their labor or for the commodities which they produce than they did ten years ago, (third) that average rates per ton per mile for railway freight transportation, expressed in money, that is to say in dollars and decimal fractions of dollars, are now somewhat lower than they were in 1897 or formerly, and (fourth) that the ton mile unit is an highly stable one as to quality and that in consequence of this stability the ton mile rates accurately answer the question whether rates, expressed in money, have remained stationary, have advanced or have declined. The latter conclusion has been supplemented and re-enforced by data from the classifications and rate schedules which tend strongly to prove the same fact. Therefore, it has been made plainly apparent that there has been a decline in money rates since 1897. But railways require money only to remunerate the

highly skilled labor they employ, to purchase necessary materials and supplies, to pay taxes and to compensate the capital they use. Consequently money is worth to the railway corporation, as to the wage-earner, only what it will buy for the satisfaction of wants. A dollar which will pay for less labor or buy less fuel for locomotives is worth less to the railway just as a dollar that will buy less bread or clothing is worth less to the man who works for wages or receives it as interest on his savings. It has long been realized that any effort to study the question of wages, throughout an extended period, which fails to take into consideration the purchasing power of the money received is worse than valueless, because it is deceptive and misleading. It has been generally recognized also that any effort to consider the condition of particular classes of producers by comparisons of the prices obtained for their products at different periods, as that of farmers by the prices of corn and wheat, is similarly dangerous unless these prices are turned into quantities of the commodities which such producers must purchase. Brief quotations from economists of the highest authority will serve to make this point clearer. In "The Wealth of Nations" Adam Smith said:

> "Every man is rich or poor according to the degree in which he can afford to enjoy the necessaries, conveniences, and amusements of human life. . . . The real price of everything, what everything really costs to the man who wants to acquire it, is the toil and trouble of acquiring it. What everything is really worth to the man who has acquired it and who wants to dispose of it or exchange it for something else is the toil and trouble which it can save to himself and which it can impose upon other people. . . . The exchangeable value of everything must be equal to the extent of this power which it will convey to its owner. . . . Every particular commodity is more frequently exchanged for money than for any other commodity. The butcher seldom carries his beef or his mutton to the baker or the

brewer in order to exchange them for bread or for beer, but he carries them to the market, where he exchanges them for money. . . . The quantity of money which he gets for them regulates, too, the quantity of bread and beer which he can afterwards purchase. . . . Gold and silver, however, like every other commodity, vary in their value, are sometimes cheaper and sometimes dearer, sometimes of easier and sometimes of more difficult purchase. . . . The discovery of the abundant mines of America reduced in the sixteenth century the value of gold and silver in Europe to about a third of what it had been before. . . . But as a measure of quantity, such as the natural foot, fathom, or handful, which is continually varying in its own quantity, can never be an accurate measure of the quantity of other things, so a commodity which is itself continually varying in its own value can never be an accurate measure of the value of other commodities. . . . At all times and places that is dear which it is difficult to come at or which it costs much labor to acquire and that cheap which is to be had easily or with very little labor. . . . Commodities may be said to have a real and nominal price. . . . Real price may be said to consist in the quantity of the necessaries and conveniences of life. . . . Nominal price is the quantity of money. . . . The distinction between the real and the nominal price of commodities and labor is not a matter of mere speculation, but may sometimes be of considerable use in practice. The same real price is always at the same value, but on account of the variations in the value of gold and silver the same nominal price is sometimes of very different values."

The following is from John Stuart Mill, in his "Principles of Political Economy":

"Money is a commodity and its value is determined like that of other commodities, temporarily by demand and supply, permanently and in the average by cost of production. . . . The relations of commodities to one another remain unaltered by money; the only new relation introduced is their relation to money itself, how much or how little money they will exchange for. . . . The value of a thing is what it will exchange for; the purchasing power of money. If prices are low, money will buy much of other things, and is of high value. If prices are high, it will buy little of other things, and is of low value. The value of money is inversely as general prices—falling as they rise, and rising as they fall."

And President Hadley, of Yale, in his "Economics," said:

"The value of money is measured by the quantity of other things which a unit of money will purchase. It varies inversely as the general level of prices. If general prices are

high, a given amount of products or services will cost a great many dollars.

"If the price of different commodities rose or fell simultaneously it would be easy to ascertain the amount of change in the general price level and in the value of money. But the price of each article is subject to independent variations of its own. . . . There is always considerable fluctuation in the purchasing power of coin. . . The goods which he makes are valued, not as a source of enjoyment to the producer himself, but as a means of commanding the goods and services of others in the open market. . . . The piece wage received by any workman multiplied by the number of pieces which he makes in a day constitutes his day's earnings or nominal wage. The amount of comforts which he can buy with the money received as nominal wages represents his real wage."

It is because the study of comparative railway rates has been more lately undertaken that the same necessity has not yet received general recognition in this field of investigation. There can be no doubt that it exists.

The application of the principles set forth in the foregoing extracts to the discussion of the supply of standard money was stated, with admirable clearness and in terms that will serve to illuminate the present inquiry, by Professor Frank W. Taussig, of Harvard University, in a work published prior to the silver campaign of 1896. This work was written when the view that a continuance of the decline in prices then in progress was inevitable unless the gold standard was abandoned was almost uinversal, This view took no account of the possibility of an almost three-fold augmentation of gold production such as that which has since taken place. Professor Taussig said, in part:

"So far as this train of reasoning undertakes to explain the mode in which the fall* in prices has been brought about, it seems to me impregnable. But in so far as it endeavors to disprove the appreciation* of gold, or to show that the general

*The reader will note that the words "rise" and "depreciation" might be substituted for "fall" and "appreciation" here and elsewhere in this extract without altering its logic .

fall is not due to this appreciation, I have never been able to see its force. In truth, both the bimetallists and their opponents seem to confuse the question when they speak of the appreciation of gold as causing lower prices. The appreciation of gold *is* the general fall in prices. The two are not related as cause and effect; they are simply two names for one and the same thing, namely, a different rate of exchange between gold on the one hand and commodities in general on the other, by which the same amount of gold buys more commodities than before. . . .

"The only concrete way in which civilized people can become better off, is by being able to buy more,—by their money incomes going further in the purchase of commodities. The improvement may take the form either of higher money incomes, with stationary prices; or that of stationary incomes with lower prices; or the intermediate form, which in fact seems to have occurred, of money incomes rising somewhat and prices at the same time falling somewhat. . .

"The eventual effect of a silver standard, as we have seen, must be to cause a general rise in prices. The rise, no doubt, would not be immediate, and the change not so prompt or its effects so directly felt as is generally predicted. But come it would; and the phenomena of rising prices and incomes would in due time appear.

"All the indications, so far as we can see, are that the advance in the arts will not relax, that commodities will be produced more and more cheaply and abundantly, that the general trend of prices in civilized countries will be downwards while money incomes will continue to be stationary or rising. The present monetary situation, and that for the visible future, seem to be on the whole satisfactory."†

The unforeseen circumstances which have prevented the realization of Professor Taussig's predictions have not weakened the logic of his argument. The elements which did not enter into his calculation, the enormous increase in the World's gold supply and the somewhat related, to say the least, extensive expansion of credits, have accomplished about what he anticipated would result from the free coinage of silver at the ratio of sixteen fine ounces of silver to one of gold. The annual report of the Bureau of the Mint for the year 1906 gives estimates of

†"The Silver Situation in the United States," by F. W. Taussig, LL. B., Ph. D., Professor of Political Economy in Harvard University, 3d Edition, G. P. Putnam's Sons, New York and London, 1896.

the World's yearly production of gold from which the following figures for each quinquennial period from 1862-66 to 1902-06 have been obtained:

Years.	Fine ounces.	Value.
1862-1866	30,068,414	$621,570,000
1867-1871	30,671,358	634,033,000
1872-1876	24,367,771	503,727,000
1877-1881	26,668,106	551,278,700
1882-1886	24,851,094	513,717,700
1887-1891	28,490,926	588,959,700
1892-1896	42,876,543	886,337,100
1897-1901	65,076,311	1,345,246,700
1902-1906	84,646,918	1,749,807,300

DIRECT APPLICATION TO RAILWAY RATES.

Economists of distinction have applied this line of reasoning to the present problem of the readjustment of railway rates. The following concise statement has been made by President A. T. Hadley, of Yale University:

> "It seems also clear that the average increase in rates is apparent only and not real. If the price of goods carried and wages of railroad laborers and the cost of materials of railroad construction and operation have increased from ten to forty per cent, an increase of apparent charge of five per cent on the part of the railroads is virtually a tremendous and gratifying decrease."*

In the admirable essay, which received the first prize in the Hart, Schaffner and Marx contest in the year 1906, Dr. Albert N. Merritt expressed the same view in greater detail, saying, in part:

> "At the same time, coupled with the general prosperity which has attended the increased amount of business done has come a considerable rise in the prices of nearly all commodities, while there has occurred also a considerable advance in the rate of wages. For these reasons the cost of operation upon our railroads has been greatly increased.
>
> "Whatever the cause, the fact of this rise in the price of services and commodities is incontestable. In other words, a smaller quantity of labor and materials can be purchased with a given amount of gold coin to-day than could be purchased six years ago.
>
> . . . .
>
> "But a general advance in the prices of commodities, ac-

*President Hadley in *Boston Transcript* of April 1, 1905.

cording to another way of stating the same fact, is only a relative decline in the value of that standard in which prices are measured. When measured in the amount of commodities and services which it will buy, gold has therefore declined about 25 per cent in value since the period of 1895-1899. Would it then be unreasonable to expect that gold, being less valuable for the purchase of commodities and labor, should also be less valuable in the purchase of transportation? What are the facts? If we take similar periods for the computation of average railway rates, we find that there has been no advance whatever, the average rate for the first period, 1895-1899, being 7.84 mills per ton-mile, while that of 1904 was only 7.80 mills per ton-mile. Thus while average prices have advanced 25 per cent there has actually been a slight decline in average railway rates.

"An important distinction is here to be indicated which is not often recognized. There are two sorts of rates, which may be designated respectively as nominal and real. Nominal rates are measured in money, while real rates consist of a percentage of the value of the commodities transported. To determine the real rate, that proportion of the value of the goods transported, which must be given for the service of transportation, must be ascertained.

"This distinction may at first seem useless, and the method of computing real rates certainly refuses to lend itself to exact statistical analysis. Nevertheless, real rates, such as described are the only proper measure of the relative burden of the transportation charges upon the industries of our country. Obviously it is of little concern to the producer just what may be his absolute money income and expenditure. That which is of especial interest to him is his relative income and his outlay. It is, therefore, the proportion of the value of his wheat which must be paid for its transportation that determines the real burden of the transportation charge upon him. On the other hand it is the amount of labor and materials [which the money received for transportation will buy] which is of interest to the railroad i determining whether or not it can derive a profit from the rates charged. If now real rates are accepted as the proper basis for determining the course of rates in this country the whole situation assumes an entirely different aspect. . . . In other words real rates have declined 25 per cent in less than ten years."*

CONSEQUENCES OF LOSS IN PURCHASING POWER.

The conclusions from the foregoing are already apparent. A rapid decrease in the purchasing power of the

*Albert N. Merritt, Federal Regulation of Railway Rates, Houghton, Mifflin and Company, Boston and New York, 1907, pp. 7-10.

money they receive has brought about, within a single decade, a reduction in railway freight rates that cannot be less than twenty-five per cent. This reduction began almost imperceptibly at a time when American railway rates were already lower than ever before in the history of railways and lower than anywhere else in the World. It has proceeded, concurrently with the fall in the real value (that is in the purchasing power) of the American dollar but in such subtle form that only when its consequences threaten the stability of the American railway system, the wages of railway employees and the prosperity of the great rail-manufacturing, car-building and other allied industries is its real significance and extent perceived even by those most immediately interested. That such a threat now hangs over the railway industry of America and every employee and industry dependent upon it is too plain for argument. The situation is acute and nothing but a prompt adjustment of the rates obtained for the services rendered to offset, partially, at least, the loss in the value of the money received will prevent disaster. That such an adjustment, if effected now, will, at best, be tardy and belated is evident from the facts herein presented, which show that prices in every other industry and the wages of all artisans were long ago adjusted to this fundamental condition.

RAILWAY CAPITALIZATION AND EARNINGS.

The truth is that railway corporations and railway owners, although they bore some of the severest losses of the period of financial depression that began in 1893, were able to obtain but a relatively small share in the benefits of the ensuing period of prosperity. This is indicated by

the following table which shows the aggregate par value of shares and bonds receiving no return in each of the years named, as reported by the Interstate Commerce Commission, and the percentage relations of these aggregates to the total issues.

Year.	Stock on which no dividends were paid.		Bonds on which no interest was paid.	
	Par value.	Per centof total issue.	Par value.	Per cent of total issue.
1890	$2,811,526,552	63.76	Unknown.	Unknown.
1895	3,475,640,203	70.06	$890,561,460	16.71
1900	3,176,609,698	54.34	378,937,806	6.78
1905	2,435,470,337	37.16	449,100,396	6.36
1906	2,276,801,333	33.46	287,954,851	3.82

The capital issues thus left portionless do not represent an excess of capitalization over real value for there is no such excess. There is no "water" in American railway capitalization as it exists to-day. The methods of financing railway enterprises which were necessary prior to 1880 have passed away, railway paper is no longer heavily discounted and for two decades railway corporations have been busily engaged in recreating their properties. The latter process has now gone so far that there is no longer a dollar of water in the aggregate railway capitalization, and the American railway system could not now be reproduced even for a sum much greater than the total par value of all the bonds and stock by which it is represented.* Since 1880 there has been no increase in the average capitalization per mile of American railways, as is shown by the following table:

*The reader who wishes a more complete discussion of this subject is referred to the article entitled "Railway Capitalization," by Mr. H. T. Newcomb, which appeared in the RAILWAY WORLD of June 7, 1907.

Year.	Capitalization per mile of line.		
	Funded debt.	Stock.	Total.
1880	$25,400	$27,700	$53,100
1890	26,975	22,498	49,473
1895	28,767	22,539	51.306
1900	27,680	23,413	51,093
1905	30,793	20,664	51,457
1906	32,014	20,427	52,441

This is a lower average capitalization per mile than that in any country having railway facilities which even approximate the high quality of those traversing the United States. The "Archiv für Eisenbahnwesen" for May and June, 1906, gives the following data concerning the European countries whose railways are comparable with those of the United States:

Country.	Length of line in miles.	Total capitalization.	Average capitalization per mile of line.
Great Britain and Ireland	22,147	$5.792,206,000	$261,535
German Empire	33,594	3,334,618,000	99,262
France	27,739	3,370,556,000	121,510
Austria	12,813	1,373,498,000	107,196
Belgium	2,520	399,602,000	158,572
Switzerland	2,536	257,516,000	101,544
Italy	9,962	1,077,902,000	108,201
Spain	2,272	214,200.000	94,278
The Netherlands	1,653	136,612,000	82,645
Russia (not including Finland)	36,683	2,769,844,000	75,508
Total	151,918	$18,726,554,000	$123,268

The aggregate railway mileage of all the countries of Europe, at the dates represented in the publication from which the foregoing table was prepared, was 177,491 miles with a total capitalization of $20,018,418,000, an average of $112,786 per mile, or more than twice the average in this country. Thus the European railway system, which has less than eighty miles for each one hundred miles in the United States, sustains $171.51 of capitalization for every one hundred dollars sustained by the railways of this country. Even Canada, with its sys-

tem of approximately 20,000 miles of railway, largely built with the aid of credit loaned by the Government, shows an average capitalization of over $60,000 per mile, or nearly twenty per cent higher than the United States.

LOW RETURN IN RAILWAY INDUSTRY.

Not only is the capitalization of the American railway system moderate but the return upon investments in this industry are generally lower than in any other great American industry. The large aggregates of railway bonds and shares which receive no interest or dividends have already been shown. A careful investigation by Mr. Logan G. McPherson, lecturer on Railway Transportation at Johns Hopkins University, based upon official statistics collected by the United States Census Bureau and Department of Agriculture, has revealed the important fact that both the farming and manufacturing industries bring in much more, per unit of capital employed, to those engaged in them, than does the railway industry. The following data showing the average gross and net returns in the year 1905 upon each investment of $1,000.00 in each of the industries named are from Mr. McPherson's report of the results of his inquiries.*

Industry.	Gross.	Net.
Manufactures	$1,216.00	$151.00
Agriculture	191.00	98.00
Railway	150.00	44.00

The most extreme modification of the tables possibly consequent upon the completest information could not, in all probability, alter the conspicuous deduction from

*The full report is to be found in *The Railway World* of November 29, 1907.

this comparison. That is, the investor looking for the greatest profit would turn to manufactures, then to agriculture and lastly to the railroad. The tremendous development of manufactures and the enormous and gratifying prosperity of the farming regions of the West confirm this deduction.

SLIGHT EFFECT OF A READJUSTMENT UPON CONSUMERS.

If where there has been an unplanned, unasked and involuntary reduction to the point, or beyond the point, of unprofitableness there must be a wisely directed, systematic and considerate effort at readjustment, the railways should be able to rely upon the cordial acquiescence of an intelligent public sentiment. There can be no real advance in rates because only a small fraction of the loss through the depreciation of the dollar can possibly be regained by the railways but some readjustment and distribution of this loss is inevitable, as has already abundantly been shown, if wages and stable conditions in this great, prosperity-making industry are to be maintained. How slight the effect, upon the consumers of the commodities affected by such readjustment, would be may be indicated by considering the following suggested changes on traffic between Chicago and New York.

	Classes and rates in cents per 100 lbs.					
	1	2	3	4	5	6
Present rates	75	65	50	35	30	25
Suggested additions	10	9	7	5	3	2
New rates	85	74	57	40	33	27

Should the foregoing be adopted the effect upon the commodities named in the following table, per unit of

consumption, even when shipped in less than carload quantities, would be as indicated in the last column below.

Article.	Rates per 100 lbs. Present.	Rates per 100 lbs. Suggested.	Description and weight of package.	Quantity of article in package.	Increased charges on article.
Ale	50	57	Bbl... 365 lbs.	36 Gal.	7-10c. per gal.
Brooms	75	85	Bdls. 25 "	1 dozen	1-5c. each
Bedsteads, Iron	65	74	70 "	1 Iron Bedstead	6 3-10c. each
Boots and Shoes—					
Men's	75	85	Box 40 "	1 doz. Pair	1-3c. per pair
Ladies'	75	85	Box 65 "	3 doz. Pair	1-5c. per pair
Butter	65	74	Tub 60 "	.....	9-100c. per lb.
Baking Powder	50	57	Box 40 "	.....	7-100c. per lb.
Canned Fruit	40	46	Box 45 "	2 doz. Cans	1-10c. per can
Canned Vegetables	40	46	Box 45 "	2 doz. Cans	1-10c. per can
Cond. Milk	50	57	Case 55 "	4 doz. Cans	8-100c. per can
Coffee	40	46	Case 75 "	60 1-lb. pkgs.	7-100c. per can
Cotton Goods, in piece	55	63	Case 400 "	3000 Yards	1-100c. per yard
Corsets	75	85	Case 400 "	30 Dozen	1-10c. per pair
Carpet	75	85	Roll 125 "	60 Yards	1-5c. per yard
Candles	40	46	Box 60 "	.....	6-100c. per lb.
Eggs	65	74	Case 53 "	30 Dozen	15-100c. per doz.
Hats—					
Stiff	75	85	Case 60 "	3 Dozen	2 cents per doz.
Soft	75	85	Case 92 "	5 Dozen	1 4-5c. per doz.
Iron Locks	50	57	Case 250 "	10 Dozen	1 7-10c. per doz.
Nails	35	40	Keg 108 "	In bulk	5-100c. per lb.
Rubber Shoes	75	85	Case 30 "	2 doz. Pair	1-100c. per pair.
Macaroni	35	40	Box 26 "	.....	5-100c. per lb.
Soap, Common	40	46	Box 80 "	100 Cakes	5-100c. per cake
Starch	40	46	Box 45 "	40 1-lb. pkgs.	7-100c. per lb.
Sugar	40	46	Brl. 350 "	.....	6-100c. per lb.
Tea	75	85	Chest 65 "	.....	1-10c. per lb.
Whiskey	55	63	Brl. 440 "	47 Gallons.	¾c. per gal.
Clothing	75	85	Case 800 "	40 Suits	¾c. per suit
Coffee C. L.	27	30	Bbls. 350 "	.....	2-100c. per lb.
Sugar C. L.	26	28	Cases 75 "	60 1-lb pkgs.	3 ½-100c. per lb.

The foregoing shows that an increase of seven cents per hundred pounds, for example, on baking powder shipped in less than carload quantities from New York to Chicago, would only amount to seven-tenths of one mill per can. On most goods shipped in carload quantities the effect of the changes would be still less considerable.

VIEWS OF AN AUTHORITY.

That those who, outside of railway offices, have given most consideration to the subject, realize the necessity of at least such a moderate readjustment as herein suggested is made evident by the following wise and patriotic conclusions expressed by Hon. Martin A. Knapp, the experienced and able chairman of the Interstate Commerce Commission, in a recent address:

> "Without regard to the personnel of railroad officials, without regard primarily to the interest of stockholders, but in the interest of public welfare and national prosperity we must permit railway earnings to be adequate for railway improvement at advantage and profit.
>
> . . . .
>
> "The prosperity of the country is measured and will be measured by the ability of its railroads and waterways to transport its increasing commerce. With a country of such vast extent and limitless resources with all the means of production developed to a wonderful state of efficiency, the continued advancement of this great people depends primarily upon such an increase of transportation facilities as will provide prompt and safe movement everywhere from producer to consumer; and that we shall not secure unless the men who are relied upon to manage these great highways of commerce have fitting opportunity, and the capital which is required for their needful expansion is permitted to realize fairly liberal returns.
>
> . . . .
>
> "Now it happens, as you all know, partly from the nature of the calling, which appeals to the imagination of young men for its novelty and its opportunity, and partly because of the strength of railway labor organizations, which for the most part have been prudently managed by astute and able leaders, that the general scale of wages in railway service

has been materially higher than in corresponding private pursuits, ...

"Therefore it is a great satisfaction to me that at this critical juncture, under the abnormal and distressing conditions which have lately prevailed, arrangements have been made by which the wage scale in railway service is not to be invaded, at least until the lapse of time shows the necessity for resort to that method of reducing expenses; and I congratulate our railway friends and the country at large that means have been devised for carrying this great industry over this critical period without attempting a reduction in the wages of railway employees."*

On a later occasion, addressing the National Association of Railway Commissioners, an organization composed of National and State officers empowered by law to deal with problems of railway rates, Mr. Knapp plainly indicated his conviction that such a readjustment of rates is the sole possible alternative to a general reduction in the earnings of railway employees. In the course of this address, delivered on October 7, 1908, Mr. Knapp said:

"If I might venture another word merely to give expression to my personal convictions. As I said at the outset, this contact with certain phases of the labor questions has not only impressed me with its fundamental character, but has, I believe, led me to a better appreciation of the point of view of the man who works for his daily living, and has led me further to believe in the economic usefulness, the public benefit, of a high and advancing standard of compensation to railway employees. If I might enlarge just for one moment upon that phase of the subject it would be to say something of this sort: Every thoughtful man must be impressed with the inequalities of human condition. Equal honesty, equal intelligence, equal energy, and equal effort produce very unequal results. I sometimes allow myself to read Mr. Carnegie's speeches, and they seem to imply that if everybody had done just as he had done, everybody would be just as rich as he is. The non sequitur is so obvious as to require no comment. It is not possible for all to succeed, and, therefore, the thoughtful man, the man who really desires to see the better thing come to pass, to feel that his country is growing and developing in the right direction, and that institutions, laws, and administrations are tending to a higher national life, is the man who wants to bring about a more equable distribution of the bountiful wealth

*Annals of the American Academy of Political and Social Science, July, 1908.

which the earth produces. How can we accomplish that result by any practical means more efficient or just than by maintaining a progressive increase in the wages paid to men who work, because they are the vast majority, and the better they are paid the more widely and equably the wealth of the nation will be diffused. Therefore, I, for one, do not hesitate to voice my desire to see our railroads make earnings which will permit them, plainly permit them, to pay liberal wages to an adequate number of competent men, not only because I believe they deserve it, but because of the influence, the very great influence, of the scale of wages in public service upon the wages paid in every grade of private employment, and because that policy, I firmly believe, will promote the prosperity and happiness of all the people of our country."

CONCLUSION.

The following facts have been disclosed by this inquiry:

First, there has been, since 1897, a great reduction in railway freight rates which has gone so far as to endanger the maintenance of the present level of railway wages and to threaten the stability of the whole railway industry and all allied industries.

Second, this decline has not been effected to meet the necessities or at the request of shippers, but has been accomplished, without the efforts of shippers or the consent of the carriers, through the gradual depreciation of the money in which rates are paid.

Third, a readjustment of charges which will offset a part of this loss can be made without serious inconvenience to any shipper and without materially augmenting the price of any article to any consumer.

Fourth, the urgent need of a prompt readjustment of sufficient extent to remove the necessity for a lowering of wages is fully realized by the public authorities charged with the duty of investigating such matters.

On this statement of facts the question is presented to the fair-minded American public with the confident belief that the action which has become so plainly necessary will receive their full and ungrudging support.

APPENDIX A.

A comparison of the Official Classification of 1908 with that of 1898 shows that there are approximately 3,000 descriptions of various articles on which the classification or rating for 1908 was the same as for 1898. The following list contains the more important of these articles. Many are assigned less than carload ratings with a lower rating for carload shipments. Such articles are listed below either as carload or less than carload, dependent upon the prevailing quantity in which such shipments are tendered for transportation.

NOTE.—Items marked with an asterisk have both less than carload and carload ratings.

LESS THAN CARLOAD.

FIRST CLASS AND HIGHER.

*Almanacs.
*Aluminum, Pigs, Slabs, Bars, Sheets, Plates or Ingots.
Aluminum Bronze.
Albums, Photograph.
Andirons.
Appliances, Magnetic.
Awnings.
*Bamboo, Split.
Beans, Tonka.
Beans, Vanilla.
Beds, Feather.
Belts, N. O. S. (Wearing Apparel).
Binding, Cotton, N. O. S.
Bismuth.
Blinds, Porch or Shade, Bamboo.
Boots and Shoes, rubber or felt, wool or canvas.
Boots and Shoes, other than above.
Boxes, Cigar, Wood.
Boxes, Druggist, pill or powder not nested.
Boxes, Jewellers, Paper, not nested.
*Boxes, Telephone, wood.
*Boxes, Tin Plate.
Bric-a-brac.
Britannia Ware.
Bronze Ware.
Brooms, in bundles.
*Butter, Fruit, in glass or earthenware.
Buttons.
Caps, Percussion, High Explosive.
Caps (Wearing Apparel) Fur.
Capsules, Gelatine.
*Carbureters.
Cards, Photographic.
*Cards, Playing.
*Cards, Show, Chromo, Advertising.
Carpeting, N. O. S.
Cartridges, Stove or Fuel.
*Cases, Burial.

Cases, Egg, Wood, new or old, S. U.
*Cases, Filing.
Casings, Sausage, dry.
Chips, Potato.
*Chowder, Clam, in glass.
Cameras.
Cigars, Boxed, Corded or Sealed.
Cloth, Wire.
Clothing.
*Coffee, Condensed, in glass.
*Coffins.
Collars, Horse.
Corks.
Corsets.
Cotton, Spool.
Dolls.
Dusters, Feather.
*Dyes, Aniline.
*Essence, Coffee, in glass.
*Extracts, coffee, in glass.
*Extracts, Malt, in glass.
Fans, Palm Leaf or Japanese.
*Files, Letter, N. O. S.
Flowers, Artificial.
Furniture (New).
*Bedsteads, Brass, K. D.
*Chairs, Barber and Dental, S. U.
Fuse.
Fusees, Railroad.
Gauges, Steam.
Glass, Decorated.
*Glasses, Looking.
*Glass, Plate, (Not over 7½' in width).
Glass, Looking.
Gloves.
Goods, Brass.
Goods, Celluloid.
Goods, Copper.
Goods, Dental.
Goods, Dry, Blankets.
Goods, Dry, N. O. S.
Goods, Gutta-percha.
Goods, Knit.
Goods, Leather.
Goods, Millinery.
Goods, Optical.
Goods, Rubber.
*Hammocks.
Hampers, Nested.
Handles, Umbrella.
Harness.
Hats.
Hides, etc., (Furs, peltries or Skins)
Hosiery.
Implements, Fire Arms.
Instruments, Surgical.
Music, Sheet.
Notions.
Oysters, Shucked.
Pencils, Lead.
Pens.
Perfumery.
*Phonographs.
*Polish, Furniture, in glass or earthenware.
*Polish, Stove, in glass or earthenware. .
Poultry, Dressed.
Quilts, Bed.
*Reels, Hose, lawn.
*Rugs, Cocoa, Grass, Hemp, Jute or Pine Fibre.
*Sauce and Sauces, N. O. S., in glass.
*Screens, Door or Window, cloth or wire.
Shades, Window.
*Shrubbery, in bundles.
Suspenders.
Tea, N. O. S.
Thread.
Tobacco, cut or granulated, smoking or chewing, in drums, boxes, kegs or bbls.
Toys, N. O. S.
*Trunks, N. O. S.
Umbrellas.
Valises, Satchels, Travelers' Telescope Cases, Traveling Bags and Dress Suit Cases.

LESS THAN CARLOAD.

SECOND CLASS.

Albumen.
*Bags or Sacks, Mail, Government.
*Blue, Soluble.
*Bluing, Dry.
*Boards, Lap.
*Boilers, Range, Copper.
Boilers, Wash, Copper, nested.
*Booths, Telephone, Wood.
Brass, Sheet, perforated.

Butter, Cocoa or Coating, in wood.
Caviar.
Chandeliers.
Chinaware, in bbls. or casks.
*Cistern, Slate.
Clippers, Hair (hand).
*Coolers and Tuyers, bronze or copper.
*Counters, Leather.
*Croquet Sets.
Cutlery, not plated.
*Elbows, Conductor Pipe, tin, nested.
*Extract, Soap, Liquid, in bottles.
*Felt, oiler, Hair.
Furniture (New).
*Beds, Folding, also Bookcases, Chiffoniers, and Desks (K. D.).
*Bedsteads, Iron or Steel
*Bedsteads, Wood.
*Settees, Wood, K. D.
Gauges, Water.
Griddles, Asbestos.
Halters.
*Heels, Leather.
Ink Stands or Ink Wells.
*Leather, Artificial, enamel or patent.
Linoleum, under 13 feet.
Pencils, Slate.
*Pipes, Tobacco, common clay.
Roots, Ginger.
*Roots, Licorice.
*Shot, in bags.
Supplies, Government.
Ordnance Stores.
Quartermasters' Stores.
*Syrup, Fruit, in cans or boxes.
*Wringers, Clothes, crated or boxed.

LESS THAN CARLOAD.
THIRD CLASS.

*Bags or Sacks, Paper.
*Blackboard, Silicate.
*Blackboard, Slate.
*Blackboard, Wood.
*Boards, Engraving, wood.
*Boards, Stove.
Buckets, Chain, Pump.
Cheese, in boxes or casks.
*Chickory.
*Chow-chow, in kegs, bbls. or casks.
Clams, fresh, in shells, in bags or bbls.
*Compounds, Polishing, in cakes, bars, or in bulk.
*Crayons, School, Chalk or Talc.
*Glassware, Lights, Floor, Vault or Prism.
*Griddles, Soapstone.
*Hods, Brick or Mortar, wood, K. D.
Horseradish, in kegs, bbls. or casks.
*Hose, Rubber, Canvas or Leather, in boxes or bbls.
*Mats, Door, Wire.
*Metal, Babbitt, in pigs or slabs.
*Milk, Condensed, in cans, kegs or bbls.
*Olives, in kegs, bbls. or casks.
Oysters, in shell.
*Packing, Asbestos.
*Pickles, in kegs, bbls. or casks.
*Pins, Clothes.
*Rivets, Brass, Bronze or Copper.
*Rollers, Curtain or Shade.
Rubber, Crude.
*Spools, Wood.
*Stain, Leather.
Tobacco, Plug, in caddies.
*Toothpicks, wood.
*Vegetables, etc., Garlic, dried.
*Veneering.

LESS THAN CARLOAD.
FOURTH CLASS.

*Blocks, Last, wood.
Compounds, Welding, in kegs, bbls. or casks.
Cotton, N. O. S., in compressed bales.
*Foots, Oil.
Rubber, Scrap.
*Stain, Furniture or Wood.

LESS THAN CARLOAD.
FIFTH CLASS.

Rags, in bales.
Waste, Jute, in compressed bales.

CARLOADS.

FIRST CLASS.

*Berries, Green.

IRON AND STEEL ARTICLES.

*Elbows, Stove Pipe, crated.
*Pipe, Stove and Stove Pipe and Damper, crated.

CARLOADS.

SECOND CLASS.

*Broom Corn.
*Feathers and Feather Clipping, pressed in bales.
*Frames, Door, S. U.
*Furniture (New) N. O. S., Tables, K. D.
*Herbs, Dried, in packages.
*Hops, compressed in bales.
*Poultry, Alive.
*Stones, Lithographic.

CARLOADS.

THIRD CLASS.

*Bananas.
*Batteries, Electric.
*Belting, Canvas, Rubber or Leather.
*Carrousels.
*Cement, Liquid, in glass or earthenware.
*Chocolate, (not choc. confectionery).
*Cocoa and Cocoa mixtures or substitutes.
*Colors or coloring—Butter and cheese.
*Corkwood.
*Disinfectants, N. O. S., Liquid, in glass.
*Disinfectants, other than liquid, in glass.
*Drugs, N. O. S., in glass.
*Extracts, Beef.
*Fixtures, Electrical.
*Frames, Picture.
*Freezers, Ice Cream.
*Furniture, Mattresses.
Hides, etc.
*Skins, Sheep and Sheep Felts, dry.
*Hods, Coal, (Iron or Steel).
*Instruments, Electrical.
*Lemons.
*Matter, Advertising, Printed.
*Matter, Printed.
*Medicines, in glass.
*Mucilage, in glass or earthenware.
*Oranges.
*Powder, Baking.
*Rattan.
*Reeds.
*Tents.

CARLOADS.

FOURTH CLASS.

*Agate, in the rough.
*Almonds, not shelled.
*Ammonia, Anhydrous, liquid.
*Ammunition, fixed.
*Arsenic, crude.
*Bagging, Burlap or Gunny, new or old.
*Barrels, etc., Kegs.
*Beans, Cocoa.
*Bearings, Car, Journal.
*Berries, Dried.
*Biscuits, N. O. S.
*Brass, Sheet, N. O. S. and Plate.
*Burlaps (Not dyed for wall covering).
*Carbons, Electric light.
*Cartridges, Firearm, paper or metal.
*Castings, Brass.
*Cloth, Brattice.
*Compound, Boiler, Cleansing, dry.
*Compound, Washing, Liquid, in bbls.
*Copper, plate or sheet, other than perforated.
*Cordage, N. O. S.
*Covering, Boiler or Pipe, asbestos, cork or felt.
*Crackers, other than in baskets.
*Cranberries.
*Cream of Tartar.
*Currants, dried, in bags, boxes, etc.
*Cylinders, Soda Water (tubes or drums).
*Dates.
Engines, (not locomotives).
*Fire, Chemicals.

*Fibre, Bamboo.
*Fibre, Cocoa, in dholls or comp. bales.
*Fibre, Palm or Palmetto.
*Figs, in bags, boxes or casks.
*Flax.
*Flues, Brass or Copper.
*Fruit, dried or evaporated, in bags, boxes, etc.
Furniture, (New).
*School.
*Desks and Seats, School, K. D.
*Gum, chicle, copal, demar, pontiac and shellac.
*Hides, Beef or Horse, dry, pressed in bales.
*Honey, in bbls. or casks.

IRON AND STEEL ARTICLES.

*Castings, Sewing Machine.
*Meters, Gas, Castiron.
*Safes, S. U., each 10,000 lbs. or over.
*Lanterns, other than paper.
*Lead, Bar, loose.
*Lead, Coil, loose.
*Lead, Sheet, loose.
*Leather, N. O. S.
*Licorice, Mass.
*Matches.
*Mats, cocoa, hemp, jute or pine fibre.
*Nuts, not shelled, in bbls. or casks.
*Oakum.
*Oil, Aniline, in cans.
*Peanuts.
*Pepper.
*Pipe, Lead, on reels, or in coils or rolls.
*Plates, Battery, copper or lead.
*Potash, Bi-chromate of.
*Raisins.
*Rod, Lightning and Fixtures.
*Rollers, Rubber (for clothes wringers), crated.
*Roofing, Metal.
*Rope, wire, copper, on reels or in coils.
*Rope, N. O. S.
*Salts, Aniline, in boxes.
*Screws, brass or copper.
*Shells, conch.
*Soda, Bi-chromate of.
*Soles, Leather.
*Tin Plate, crystallized, etc.
Tinware.
*Tobacco, Leaf, in bundles, crates or bales.
*Twine. in bales, boxes or bbls.
*Varnish, in bulk.
Vegetables and Garden Roots.
*Beans, Green.
*Celery, Cucumbers and Rhubarb.
*Melons and Canteloupes, loose.
*Onions, Spring, Green.
*Peas, Green.
*Wire, Brass or Copper.
*Wrappers, Bottle, Excelsior or Straw.

CARLOADS—FIFTH CLASS.

*Acid, Acetic, liquid.
*Acid, Lactic.
*Acid, Sulphuric.
Agricultural Implements and Machines.
*Axes or Hooks, bush.
*Cutters, Tobacco Plant or Shears.
*Mills, Fanning.
*Planters, Potato, hand.
*Pruners, Tree.
*Rollers, Garden or Lawn.
*Sowers, Seed, hand.
*Stackers, Straw.
Agricultural Implements and Machines, Parts.
*Aprons for Self-Binding Reapers.
*Blocks, Tread, Horse-power, wood.
*Seats, iron or steel.
*Ale, Ginger.
*Ale and Beer, Beer Tonic and Porter.
*Apples, Chopped.
*Apples, Dried or Evaporated.
*Apples, Green.
*Ashes, Pearl or Pot.
*Balusters.
*Barium, Chloride of
*Bark, Tan.
*Beer, Root.

*Board, Binders.
*Brackets, Mast or Pole, wood.
*Bran, Mustard.
*Brick, Bath.
*Brick, Enameled, Glazed or Salt-Glazed.
*Brick, Stove or Stove Linings.
*Buckets, N. O. S.
*Bungs or Plugs, wood.
*Cannon and Caissons.
*Carriages, Cannon or Gun, Stationary, K. D.
*Catsup.
*Ceiling, Paneling, Trimmings, Wainscoting and other inside House Finishing, wood.
*Chalk, Crude, in pkgs.
*Cider, in wood.
*Cocoanut, dessicated, N. O. S. in boxes, bbls. or pails.
*Compressors, Air.
*Cores, Apple, green or dried.
*Cork, Chips or Waste, in comp, bbls.
*Couplers, Car, Automatic, iron or steel.
*Covers, Pail, wood.
*Degras, in wood.
*Dip, Sheep.
*Disinfectants other than liquid, in boxes, kegs, bbls. or casks.
*Doors, wood.
*Doors and Door Frames.
*Dryers, Paint or Japan, in wood.
*Emery, Ground, in bags or boxes.
*Excelsior, in bales.
*Extracts, Bark and Wood, Dry.
*Extract, Witch Hazel, in wood.
*Fencing Wire, N. O. S.
*Ferro-Manganese, Ferro-Phosphorous and Ferro-Silicon.
*Finish, Wall.
*Fish, Canned.
*Fleshings.
*Frames, Blind.
*Frames, Door, K. D.
*Frames, Sash.
*Frames. Screen, Door and Window, wood.
*Gambier.
*Glucose, in kegs, bbls . or casks.
*Hair, compressed in bales.
*Hemp.
*Hides, Beef or Horse, green.
*Hides, etc., Skins, Sheep and Sheep Pelts, green.
Iron and Steetl Articles.
*Angle.
*Axes.
*Axles, Car or Locomotive.
*Band.
*Bands, Hay.
*Bands, Shingle.
*Bar.
*Bars, Claw, Crow, Spliced or Tampling.
*Bars, Grate.
*Bars, Sheet.
*Bars, Tin Plate.
*Beams, Brake.
*Bearings, Brake.
*Bearings, Car Bolster, Ball Bearings.
*Belting, Chain, in pkgs.
*Boiler.
*Boilers, Range.
*Boxes, Annealing.
*Boxes, Car Journal.
*Braces, Rail.
*Bridge.
*Bumpers.
*Calks, Toe.
*Castings, Furnace.
*Castings, Locomotive.
*Castings, Stoves, crated or boxed.
*Chain.
*Chairs, Rail.
*Cloth, Wire.
*Couplers, Car.
*Covers, Journal Box.
*Dies, Crusher.
*Drawbars or Drawheads.
*Flues, Boiler, Welded.
*Frogs, Rail.
*Furnaces, Heating, K. D.
*Hods, Brick or Mortar, K. D.
*Hook.

*Links, Car Coupling.
*Nails, in boxes or kegs.
*Nuts.
*Plate, Armor, Black, Corrugated, Nail and Tack.
*Plates, Boiler.
*Plates, Crusher.
*Plates, Stove, crated or boxed.
*Post, Fence.
*Radiators, Steam.
*Ranges, Water Closets, in crates or boxes.
*Registers, Air.
*Retorts, Gas.
*Rods, Brake.
*Rods, Sucker.
*Rods, Wire.
*Roofing.
*Screws, N. O. S.
*Sheet, U. S. Stand. Gauge, No. 20.
*Sheet, Corrugated.
*Sheet, Galvanized.
*Shoes, Brake.
*Shoes, Crusher.
*Shoes, Horse, Shoe, Mule or Ox.
*Skelp.
*Spiegel-iron or Spiegel-eisen.
*Spikes, Rail.
*Staples, Ingot Mold.
*Tacks.
*Ties, Cotton.
*Ware, Stove, crated or boxed.
*Washers.
*Wheels, Car and Locomotive.
*Jute and Jute Lashes.
*Kalsomine.
*Lathing, Wire.
*Lead, Black.
*Leather, Scrap.
*Lentils.
*Lime, Acetate of
*Lime, Chloride of, in kegs or bbls.
Locomotives and Locomotive Tenders.
*Logwood, chipped or ground.
*Lumber, Cigar Box.
Machines and Machinery.
*Blowers, Blacksmith and Rotary, K. D.
*Looms.
*Presses, Printing, K. D.
*Magnesium, Sulphate of Crystals (Epsom Salts)
*Manganese.
*Manila.
*Molasses, in hhds.
*Moss, Flax.
*Mustard, in kegs, bbls. or casks.
*Oil, Castor, in wood.
*Oil, Cocoanut, in wood.
*Oil, Linseed, in wood.
*Oil, Cottonseed, in wood.
*Oil, Palm, in wood.
*Oil, Red, in wood.
*Oil, Tallow, in wood.
*Oil, Tanners, in wood.
*Ore, Asbestos.
*Ore, Graphite.
*Paper, Printing.
*Paper, Wrapping.
*Paris Green, in boxes, kegs or bbls.
*Plumbago, in bbls. or casks.
*Potash, Caustic, in iron drums.
*Retorts, Gas. Clay.
*Roofing, Asbestos or Cement.
*Roofing, Tin.
*Sago.
*Saltpetre.
*Salts, Rochelle, in bbls.
Sauerkraut.
*Seeds, Alfalfa.
*Seeds, Bird, in bags.
*Seeds, Rape.
*Seeds, Clover.
*Seeds, Foenugreek, in bags.
*Seeds, Garden.
*Seeds, Grass.
*Seeds, Hemp.
*Shells, Ordnance (Cannon or Mortar).
*Sinks, Stone or Earthenware.
*Sisal.
Sizing.
*Skins, Apple.
Slate, School.
*Soda, Acetate of

Soda, Bi-Sulphite and Hypo-Sulphite of
Soda, Nitrate of
*Springs, Wire.
*Staples, Wire.
*Stock or Stuff Glue (Hides, Pates, Scrap).
Stone, Pumice.
Stone, Blocks or Slabs.
Stones, Grindstone, K. D.
*Strawboard.
Substitutes, or Mixtures, Coffee.
Syrup, N. O. S.
Tallow.
*Tapioca.
*Terne Plate, Sheet.
*Terra-Cotta.
Tile, Floor and Facing, Marble and Slate.
Tin, Disks or Circles.
*Tin, Pigs, Bars or Slabs.
Tow.
*Turpentine or Substitutes, in wood.
Tuyeres, Clay.
Vegetables.
*Beans, Dried.
*Peas, Dried.
*Potatoes and Sweet Potatoes.
*Vinegar, in wood.
*Wood, Dye, chipped or ground.
*Woods of Value, Logs.
*Zinc, Oxide of
*Zincs, Battery.

CARLOAD—SIXTH CLASS.

*Agalite.
*Alum, in bbls. or casks.
*Alumina, Sulphate of, bbls. or casks.
*Arms, Cross, (Mast or Pole), wood.
*Ash, Ammonia, or Soda.
*Ashes,Brass, Lead, Wood and Zinc.
*Ashes, Cotton Seed.
*Ashes, Garbage.
*Barrels, Ale or Beer, wood, new.
*Barytes.
*Billets, Spoke.
*Bleach or Bleaching, Dry, in casks.
*Bolts, Handle, Heading, Hoop, Shingle, Spoke and Stave, wood.
*Bone, N. O. S., ground or unground.
*Brick, Cinder.
*Brimstone.
*Cake, Nitre.
*Cake, Oil.
Cement, Asphalt, in bulk.
*Charcoal, ground.
*Charcoal, lump.
*Cinder, N. O. S.
*Clay, Fire.
*Clinkers, Carbon, (from gas retorts).
*Coal, Cannel.
*Coke, Gas House and Petroleum.
*Cracklings.
*Crucibles, Broken, (not pulverized).
*Dolomite.
*Dust, Zinc, Flue.
*Earth, Fullers, in bags or bbls.
*Facings, Foundry, in bbls or casks.
*Feed, Chop or Mill.
*Feed, Glucose.
*Feldspar.
Fertilizers, Tobacco, in bulk.
*Fertilizers, N. O. S.
*Flint, Ground.
*Flour, in bbls.
*Flues, Earthen.
*Fluor-Spar.
*Glass, Broken (cullet) in bbls. or casks.
*Grain, Barley.
*Grain, Buckwheat.
*Grain, Corn.
*Grain, Oats.
*Grain, Rye.
*Grain, Wheat.
*Grains, Brewers or Distillers.
*Grits.
*Heading.
*Hulls, Oat.
*Hulls, Rice.
*Ice.

Iron and Steel Articles.
*Bars, Muck or Puddle.
Billets, Blooms and Ingots.
*Cinder or Scale, Mill.
*Crop Ends.
*Mass Iron, Spent.
*Moulds, Ingot.
*Pig, Chill.
*Pig, Sand.
*Rails, New and Old.
*Scale, Roll.
*Scrap.
*Slabs, in the Rough.
*Ties, Railroad.
*Kainit.
*Kaolin.
*Lath.
*Lead, Pig.
*Lead, Scrap.
*Lumber, Creosoted.
Magnesite, Crude.
*Malt.
*Marl.
*Meal, Corn, in bbls.
*Meal, Cotton Seed.
*Meal, Glucose.
*Meal, Linseed.
*Meal, Oil.
*Middlings.
*Ore, Emery.
*Ore, Beauxite.
*Ore, Chrome.
*Ore, Manganese.
*Piles.
*Pipe, Sewer, Cement or Clay.
*Pitch, Solid, in cakes.
*Plaster, Stucco.
*Plaster, Wall.
*Potash, Muriate of
*Potash, Sulphate of
*Pulp, Mineral.
*Pulp, Wood.
*Rice, N. O. S.
Rock, Phosphate.
*Rosin, in bbls.
*Salt, in boxes or sacks.
Sand, N. O. S.
*Seeds, Cotton, N. O. S.
*Seeds, Flax.
*Seeds, Linseed.
*Shells, Ground, Oyster, Clam or Mussel.
*Shingles, Wood.
*Shooks.
*Shorts.
*Skimmings, Lead or Zinc.
*Slate, Roofing.
*Soda, Caustic, in bbls. or casks.
*Soda, Sulphate of (Saltcake).
*Spelter.
*Staves.
*Stock or Stuff, Cooperage.
*Stone, Building.
*Stone, Crushed.
*Sulphur.
*Talc.
Tankage.
*Ties, Railroad.
*Tile, Building, Hollow.
*Tile, Drain.
*Tile, Roofing.
Timber.
*Tin, Scrap.
*Tobacco, Stems.
*Whiting.
*Zinc, pig or slab.

APPENDIX B.

Statement showing prices of railway supplies purchased in 1897 and 1907 as disclosed by the records of various Eastern railways. It should be noted that the quality of the supplies, made the basis of this statement, may have changed somewhat between 1897 and 1907 but in few instances would the allowance for this source of variation materially affect the results.

Class.	Prices. 1897.	1907.	Increase. Per cent.
Locomotives—			
Mogul	$10,181.00	$14,111.00	38.6
10 Wheel Passenger	11,026.00	15,734.00	42.7
Atlantic	not built.	16,236.00	....
Pacific	"	19,580.00	....
Prairie	"	16,468.00	....
8 Wheel Passenger	10,243.00	13,581.00	32.5
6 Wheel Switcher	9,392.00	12,098.00	28.8
Cars, (1899-1907)—			
Hopper	$475.00	$1,185.00	....
Box	783.00	1,110.00	....
	490.00	844.00	....
	519.00	897.00	....

Note:—The prices of cars shown above are typical prices paid by different roads in the respective years and employed in the same service. As the cars purchased in 1907 are of more modern construction, better quality and larger capacity than those purchased in 1899, no accurate comparison can be made or percentage of increased cost shown.

(1902-1907)—			
100,000 lbs. Capacity Box Car with Steel Underframe and wood superstructure	$1,043.49	$1,148.88	10.09
100,000 lbs. Capacity Composite Gondola Car with Steel Underframe and wood superstructure	1,021.62	1,148.45	12.42
100,000 lbs. Capacity Composite Flat Car with Steel Underframe and wood floor	953.23	1,010.60	6.02
100,000 lbs. Capacity, all-steel Hopper Car	1,001.22	1,076.05	7.47
Angle Bars ..... Cwt.	$1.02	$1.55	52.0
Axles—			
Locomotive ..... "	2.75	2.95	7.2
"	2.72	2.85	4.7
Tender ..... "	1.40	2.35	67.8
Car ..... "	1.60	1.95	21.9
"	1.45	2.20	51.7
"	1.68	2.25	34.0
Bar Iron ..... "	1.19	1.78	49.5
"	1.10	1.80	63.6
"	1.05	1.50	42.8

Class.		Prices. 1897.	1907	Increase. Per cent.
Brick—				
Common	M.	$4.50	$6.00	33.3
Paving	"	8.00	11.00	37.5
Castings—				
Brass	lb.	0.11	0.25	127.3
"	"	0.12	0.25¾	114.6
Steel	Cwt.	3.50	6.00	71.4
M. Iron	"	2.50	4.25	70.0
	"	2.70	3.60	33.3
	"	2.35	2.85	21.2
Gray	"	1.15	2.00	74.0
	"	1.20	1.65	37.5
Coal	Ton	1.46	1.76	20.5
	"	1.32	1.82	38.0
	"	1.17	1.52	29.8
	"	1.83	2.07	13.1
Run of Mine	"	.65	1.05	61.5
¾	"	.75	1.15	53.3
Couplers—				
Freight	Set	14.00	15.00	7.1
Passenger	"	20.50	27.00	31.7
Tender	"	18.00	18.50	2.8
Fencing	M. Ft.	12.00	25.00	108.3
	"	10.00	18.15	81.5
Flues	Ft.	0.13	0.15½	19.2
	"	0.14	0.15	7.1
Forgings—				
Axles	lb.	0.02	0.03	50.0
Crank Pins	"	0.05	0.10	100.0
Piston Rods	"	0.06	0.10	66.6
Main Rods	"	0.08	0.10	25.0
Side Rods	"	0.08	0.10	25.0
Lead—				
White	Cwt.	4.95	6.25	26.3
Lumber—				
Large Bridge Timbers	M. Ft.	13.12	25.62	95.3
	"	23.00	38.00	65.2
	"	20.00	33.00	65.0
	"	17.00	28.00	64.7
	"	22.50	38.00	68.9
	"	15.00	27.00	80.0
Car Siding	M. Ft	17.00	35.00	105.9
	"	18.00	33.00	83.3
Stringers	M. Ft.	18.00	28.00	55.5
	"	16.00	34.00	112.5
	"	18.00	26.00	44.4
	"	17.00	28.00	64.7
Car Flooring	M. Ft.	17.00	24.00	41.2
	"	20.00	33.00	65.0
	"	11.00	25.00	127.2
	"	14.00	19.71	40.8
Piles (Soft)	Ft.	0.08	0.14	75.0
	"	0.08	0.11	37.5
(Hard)	"	0.12	0.17	41.7
Heavy Planks	M. Ft.	14.00	22.00	57.1
	"	14.00	30.00	114.3
	"	16.00	27.00	68.8
Cross Ties (Hardwood)	Each	0.47	0.80	70.2
	"	0.60	0.85	41.7
	"	0.55	0.75	36.4
	"	0.37	0.70	89.2
	"	0.45	0.60	33.3
	"	0.45	0.55	22.2
	"	0.48	0.90	87.5
	"	0.38	0.80	110.5
	"	0.38	0.67	76.4

Class.		Prices. 1897.	1907.	Increase. Per cent.
Cross Ties—(Continued.)				
Softwood	Each	0.22	0.60	172.7
	"	0.20	0.28	40.0
	"	0.23	0.48	108.7
	"	0.48	0.58	20.8
Nails	Cwt.	1.60	2.20	37.5
	"	1.33	2.16	62.4
	"	1.10	2.15	104.5
Wire	"	1.27	1.85	45.7
	"	1.48	2.11	42.6
Oil—				
Kerosene	Gal.	0.06	0.09½	58.3
Signal	"	0.28	0.36	28.6
	"	0.20	0.36	80.0
300 degree	"	0.09	0.10	11.1
Paint—				
	Gal.	0.77	1.03	33.8
	"	0.50	0.65	30.0
	Cwt.	4.75	6.62	39.4
	"	5.50	6.50	18.2
Pipe—				
Cast Iron	Ton.	16.00	34.00	112.5
	"	16.75	29.15	74.0
	"	13.50	21.00	55.6
	"	16.00	32.00	100.0
Copper	lb.	0.31	.34	9.7
	"	0.30	.33	10.0
	"	0.30	.35	16.7
Rails—				
Steel	Gross Ton	19.00	28.00	47.4
	" "	18.00	28.00	55.6
	" "	18.05	26.60	47.4
Rubber Hose—				
1 inch	Ft.	0.34	0.41	20.6
1¼ inch	"	0.40	0.46	15.0
Springs—				
Loco.	Cwt.	4.05	4.10	1.2
Switches—				
Comp. 80		31.90	40.77	27.8
Frogs 80		18.75	27.50	46.7
Switch Lamps	Doz.	45.00	65.00	44.4
Tile	Rod	0.40	0.60	50.0
Track Bolts	Cwt.	1.70	2.45	44.1
	"	1.65	2.60	57.6
	"	2.20	2.75	25.0
	"	1.65	2.45	48.5
	"	1.75	2.76	57.7
Track Spikes	Cwt.	1.85	2.52	36.2
	"	1.35	1.70	25.9
	"	1.50	2.60	73.3
	"	1.65	2.25	36.4
	"	1.50	1.90	26.7
	"	1.45	1.90	31.0
	"	1.75	2.00	14.3
Track Tools—				
Axes	Doz.	8.00	9.00	12.5
Drills	Each	0.35	0.46	31.4
Ratchets	Doz.	5.13	6.65	29.6
Shovels	"	5.00	5.65	13.0
Lamp Bars	Each	0.52	0.65	25.6
Waste—				
Colored	lb.	0.047	0.055	17.0
White	"	0.06	0.08	33.3

Class.		Prices. 1897.	1907.	Increase. Per cent.
Wheels—				
Car	Each	5.60	7.80	39.29
	"	6.00	8.35	39.17
	"	7.50	9.30	24.0
	"	4.78	8.46	76.9
	"	4.50	9.00	100.0
	"	6.75	8.00	18.5
	"	6.50	9.00	38.5
	"	6.00	9.05	50.8
33-in. Steel	"	50.00	56.00	12.0
"	"	42.50	44.50	4.7
36-in. "	"	42.50	50.50	18.8
		54.00	60.00	11.1
Wire—				
Barbed	Cwt.	1.70	2.50	47.0
Iron	"	1.50	2.20	46.7
Copper	Lb.	.13	.26	100.0
	"	.13	.18	38.5

APPENDIX C.

Statement showing the relative wages per hour for different classes of labor, in 1897 and 1907, as reported by the Bureau of Labor of the United States Department of Commerce and Labor in Bulletin No. 77, the percentage increase in wages, and the increased purchasing power of each class of workmen in connection with railway freight service at the average rates for 1897 and 1907 reported by the Interstate Commerce Commission.

Industry and Occupation.	Relative wages per hour.			Increased power to purchase railway freight service, per cent.
	1897.	1907.	Increase per cent.	
Agricultural Implements—				
Blacksmiths, male	95.8	125.1	30.58	37.29
Fitters, male	93.4	155.8	66.81	75.38
Grinders, male	120.8	141.0	16.72	22.72
Machine, woodworkers, male	99.1	120.5	21.59	27.84
Machinists, male	96.6	128.8	33.33	40.18
Molders, iron, male	94.0	121.6	29.36	36.01
Painters, male	97.8	130.2	33.13	39.97
Pattern makers, wood, male	97.4	132.3	35.83	42.81
Bakery, Bread—				
Bakers, male	99.8	128.9	29.16	35.80
Blacksmithing and Horseshoeing—				
Blacksmiths, male	99.9	121.6	21.72	27.98
Horseshoers, floormen, male	101.1	129.5	28.09	34.67
Horseshoers, forgemen, male	101.2	125.1	23.62	29.97
Boots and Shoes—				
Closers-on, female	105.2	112.3	6.75	12.24
Cutters, outsole, male	101.2	114.3	12.94	18.75
Cutters, upper, male	101.0	126.8	25.54	31.99
Edge trimmers, male	100.4	127.1	26.59	33.10
Goodyear stitchers, male	108.4	132.2	21.96	28.23
Heel trimmers, male	102.3	129.6	26.69	33.20
Lasters, machine, male	97.6	135.2	38.52	45.94
McKay stitchers, male	101.2	101.0	Decrease.	4.93
Treers, male	97.9	135.6	38.51	45.63
Vampers, male	111.4	128.2	15.08	21.00
Vampers, female	100.8	124.9	23.91	30.28
Brick—				
Brick-machine tenders, male	97.3	123.0	36.41	32.91
Kiln firemen, male	102.0	127.6	25.10	31.53
Kiln setters, male	96.5	114.8	18.96	25.07
Laborers, male	98.8	126.4	27.94	34.52
Offbearers, male	94.1	125.9	33.79	40.67
Building Trades—				
Bricklayers, male	99.4	140.9	41.75	49.04
Carpenters, male	100.0	151.9	51.90	59.71
Cornice makers, male	102.9	150.0	45.77	53.26

Continued from preceding page. Industry and Occupation.	Relative wages per hour. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Gas fitters, male	101.6	155.2	52.76	60.61
Hod Carriers, male	99.7	135.9	36.31	43.32
Inside wiremen, male	107.6	158.2	47.03	54.59
Laborers, male	98.5	127.2	29.14	35.78
Lathers, wood, male	106.2	140.8	32.58	39.39
Painters, male	100.5	142.0	41.29	48.55
Paper hangers, male	101.1	142.7	41.15	48.41
Plasterers, male	97.6	153.3	57.07	65.14
Plumbers, male	101.2	148.1	46.34	53.86
Roofers, gravel and tar, male	100.9	116.6	15.56	21.50
Roofers, slate and tile, male	98.6	137.2	39.15	46.30
Roofers, tin, male	100.4	133.8	33.27	40.12
Steam fitters, male	101.5	147.3	45.12	52.58
Stone masons, male	100.3	139.7	39.28	46.44
Stone setters, male	103.0	129.0	25.24	31.68
Structural iron workers, male	104.1	190.3	82.80	92.20
Candy—				
Candy makers, male	99.3	110.2	10.98	16.68
Dippers, female	96.8	139.5	44.11	51.52
Carpets—				
Burlers, female	97.4	120.3	23.51	29.86
Dyers, male	103.3	108.4	4.94	10.33
Loom fixers, male	102.7	112.0	9.06	14.67
Spoolers, female	101.2	116.7	15.32	21.25
Twisters, female	99.5	122.2	22.81	29.12
Weavers, Brussels and Wilton, male	102.7	137.7	34.08	40.97
Weavers, Ingrain, female	107.2	107.9	.65	5.82
Winders, female	98.4	125.0	27.03	33.56
Carriages and Wagons—				
Blacksmiths, male	102.4	113.2	10.55	16.23
Body makers, carriage, male	98.5	118.3	20.10	26.27
Ironers, male	102.2	120.0	17.42	23.46
Machine, woodworkers, male	100.1	117.2	17.08	23.10
Painters, male	99.4	121.6	22.33	28.62
Trimmers, carriage, male	98.9	120.7	22.04	28.31
Woodworkers, male	99.4	106.3	6.94	12.44
Cars, Steam Railroads—				
Blacksmiths, male	99.4	119.4	20.12	26.29
Boiler makers, male	98.7	128.9	30.60	37.31
Brass finishers, male	99.1	122.4	23.51	29.86
Cabinet makers, male	97.2	128.2	31.89	38.67
Carpenters, male	98.2	124.5	26.78	33.30
Laborers, male	98.5	111.9	13.60	19.44
Machine woodworkers, male	95.4	122.9	28.83	35.45
Machinists, male	99.4	126.0	26.76	33.28
Molders, brass, male	96.4	130.6	35.48	42.44
Molders, iron, male	96.2	129.6	34.72	41.64
Painters, male	100.8	118.0	17.06	23.08
Pattern makers, wood, male	97.0	122.7	26.49	32.99
Pipe fitters, male	99.6	119.9	20.38	26.57
Tinsmiths, male	102.3	138.1	35.00	41.94
Upholsterers, male	96.2	126.2	31.19	37.93
Clothing, Factory Product—				
Buttonhole makers, machine, male	99.1	101.2	2.12	7.37
Buttonhole makers, machine, female	103.4	110.4	6.77	12.26
Cutters, hand, male	103.4	113.8	10.06	15.72
Cutters, machine, male	98.4	108.7	10.47	16.15
Examiners, female	102.8	90.2	Decrease	Decrease
Finishers, female	101.3	120.3	18.76	24.86
Pressers, male	95.0	123.2	29.68	36.35
Sewing machine operators, male	98.6	112.0	13.59	19.43
Sewing machine operators, female	99.0	134.0	35.35	42.31
Cotton Goods—				
Carding-machine tenders, male	100.8	134.3	33.23	40.08
Dyers, male	96.9	123.5	27.45	34.00

Continued from preceding page.

Industry and Occupation.	Relative wages per hour. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Loom fixers, male	99.9	128.8	28.93	35.56
Spinners, frame, male	109.2	303.8	178.21	192.51
Spinners, frame, female	104.1	171.4	64.65	73.11
Spinners, mule, male	102.3	138.4	35.29	42.24
Weavers, male	95.3	147.1	54.35	62.28
Weavers, female	100.8	136.5	35.42	42.38
Dyeing, Finishing and Printing Textiles—				
Bleachers, male	101.6	117.3	15.45	21.38
Calendars, male	100.9	111.4	10.41	16.09
Color mixers, male	100.6	117.7	17.00	23.01
Dyers, male	101.4	113.9	12.33	18.10
Engravers, male	101.2	107.5	6.23	11.69
Printers, male	100.3	100.2	Decrease	5.03
Electrical Apparatus and Supplies—				
Armature winders, male	102.0	127.8	25.29	31.73
Brass finishers, male	101.0	108.7	7.62	13.15
Machinists, male	99.4	109.1	9.76	15.40
Pattern makers, male	109.7	121.0	10.30	15.97
Flour—				
Bolters, male	98.7	112.8	14.29	20.16
Laborers, male	103.0	122.9	19.32	25.45
Millers, male	98.7	113.1	14.59	20.48
Millwrights, male	98.6	109.4	10.95	16.65
Packers, male	101.6	121.5	19.59	25.74
Foundry and Machine Shop—				
Blacksmiths, male	98.6	118.0	19.68	25.83
Boiler makers, male	99.9	123.0	23.12	29.45
Boiler riveters, male	102.6	121.3	18.23	24.31
Brass finishers, male	98.0	116.2	18.57	24.66
Core makers, male	101.2	124.2	22.73	29.04
Core makers, female	97.5	121.1	24.21	30.59
Laborers, male	99.9	123.6	23.72	30.08
Machinists, male	99.7	120.4	20.76	26.97
Molders, brass, male	100.3	116.2	15.85	21.80
Molders, iron, male	100.0	127.0	27.00	33.53
Pattern makers, wood, male	99.5	127.2	27.84	34.41
Furniture—				
Cabinetmakers, male	98.1	128.5	30.99	37.72
Carvers, hand, male	101.0	120.7	19.50	25.64
Machine woodworkers, male	100.4	122.1	21.61	27.86
Sawyers, male*	99.9	125.6	25.73	32.19
Upholsterers, male	97.6	131.8	35.04	41.98
*Including all classes of sawyers.				
Gas—				
Laborers, male	103.5	107.1	3.48	8.80
Pipe fitters, male	99.6	107.0	7.43	12.95
Glass—				
Batch makers, male	99.4	108.5	9.15	14.76
Blowers, flint glass, male	103.4	108.5	4.93	10.32
Blowers, green glass, male	96.0	138.8	44.58	52.01
Blowers, window glass, male	93.8	156.0	66.31	74.86
Cutters, window glass, male	91.2	129.3	41.78	49.07
Flatteners, window glass, male	95.9	205.0	113.76	124.75
Gaffers, flint glass, male	101.7	106.8	5.01	10.41
Gatherers, flint glass, male	102.8	113.9	10.80	16.50
Gatherers, window glass, male	100.7	174.8	73.58	82.50
Laborers, male	93.4	119.3	27.73	34.36
Leersmen, male	99.4	107.2	7.85	13.39
Packers, male	98.5	114.1	15.84	21.79
Teasers, male	98.7	108.9	10.33	16.00
Harness—				
Collar makers, male	99.2	121.2	22.18	28.46
Cutters, male	98.9	129.9	31.34	38.09
Fitters and finishers, male	97.4	132.1	35.63	42.60
Harness makers, male	99.9	113.4	13.51	19.34
Stitchers, hand, male	101.8	121.4	19.25	25.38

Continued from preceding page. Industry and Occupation.	Relative wages per hour. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Stitchers, machine, male	99.6	122.3	22.79	29.10
Hats, Fur—				
Blockers, male	95.5	120.2	25.86	32.33
Colorers, male	101.4	120.5	18.84	24.95
Coners, male	106.2	137.6	29.57	36.23
Curlers, male	90.5	104.7	15.69	21.64
Feeders, female	100.2	144.2	43.91	51.31
Finishers, male	98.0	124.6	26.53	33.03
Flangers, male	92.5	107.5	16.22	22.19
Fur blowers, male	100.7	201.4	100.00	110.23
Hardeners	99.9	114.5	14.61	20.50
Pouncers, male	105.6	90.4	Decrease.	Decrease.
Sizers, male	91.3	138.8	52.03	59.84
Stiffeners, male	106.7	119.3	11.81	17.56
Trimmers, female	97.5	118.0	21.03	27.25
Weighers, female	98.3	134.6	36.93	43.97
Hosiery and Knit Goods—				
Boarders, male	99.0	148.6	50.10	57.82
Finishers, female	98.8	145.8	47.57	55.16
Knitters, male	81.8	128.1	56.60	64.65
Knitters, female	98.7	135.5	37.28	44.34
Loopers, female	91.0	110.2	21.10	27.32
Menders, female	92.1	122.1	32.57	39.38
Pressers, male	100.8	137.1	36.01	43.00
Pressers, female	97.9	135.9	38.82	45.96
Ribbers, female	92.0	137.6	49.57	57.26
Iron and Steel Bar—				
Catchers, male	98.4	152.6	55.08	63.05
Heaters, male	97.6	117.7	20.59	26.79
Heaters' helpers, male	94.9	135.8	43.10	50.46
Hot straighteners, male	91.7	135.6	47.87	55.47
Rollers, male	106.0	143.4	35.28	42.23
Roughers, male	99.5	156.8	57.59	65.69
Iron and Steel, Bessemer Converting—				
Blowers, male	101.1	147.6	45.99	53.49
Bottom makers, male	78.2	113.3	44.88	52.33
Ladle liners, male	86.4	129.3	49.65	57.34
Melters, male	87.0	109.2	25.52	31.97
Steel pourers, male	86.6	146.3	68.94	77.62
Vessel men, male	78.3	150.9	92.72	102.63
Iron and Steel, Blast Furnace—				
Cinder snappers, male	93.4	127.7	36.72	43.75
Hot blast men, male	96.3	126.8	31.67	38.34
Keepers, male	91.2	116.9	28.18	34.77
Keepers' helpers, male	90.9	118.0	29.81	36.48
Top fillers, male	95.1	110.0	15.67	21.62
Leather—				
Colorers, male	105.4	116.1	10.15	15.81
Fleshers, male	96.1	108.7	13.11	18.92
Glazers, male	101.1	124.4	23.05	29.37
Glazers, female	108.9	140.8	29.29	35.94
Limers, male	95.5	111.9	17.17	23.19
Rollers, male	99.6	120.1	20.58	26.78
Setters out, male	96.9	114.7	18.37	24.45
Shavers, male	86.5	97.0	12.14	17.90
Stakers, male	96.0	75.5	Decrease.	Decrease.
Tanyard hands, male	97.8	113.9	16.46	22.45
Unhairers, male	99.7	108.4	8.73	14.32
Liquors, Malt—				
Bottlers, male	99.8	150.1	50.40	58.13
Cellar men, male	101.3	128.7	27.05	33.58
Coopers, male	99.8	138.7	38.98	46.12
Drivers, male	100.3	114.2	13.86	19.71
Fermenters, male	101.4	130.8	28.99	35.62
Kettlemen, male	102.6	131.1	27.78	34.35
Malt house men, male	101.8	131.4	29.08	35.71

Continued from preceding page.

Industry and Occupation.	Relative wages per hour. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Washers, male	101.4	138.6	36.69	43.72
Lumber—				
Cant setters, gang, male	95.4	126.6	32.70	39.52
Carriage men, male*	97.8	135.5	38.55	45.67
Choppers and sawyers, in woods, male	101.0	125.7	24.46	30.86
Edger men, male	95.5	120.5	26.18	32.67
*Including band setters and circular setters.				
Filers, male	98.8	127.1	28.64	35.25
Laborers, male	94.8	131.6	38.82	45.96
Sawyers, band, male	99.5	133.0	33.67	40.54
Sawyers, circular, male	95.0	126.9	33.58	40.45
Sawyers, gang, male	107.0	129.8	21.31	27.55
Trimmers, male	88.9	110.2	23.96	30.33
Marble and Stone Work—				
Bed rubbers, male	100.2	128.0	27.74	34.31
Carvers, male	103.7	126.4	21.89	28.16
Laborers, male	102.1	117.3	14.89	20.80
Letterers, male	101.9	132.7	30.23	36.92
Marble cutters, male	101.8	126.4	24.17	30.55
Marble polishers, male	102.0	141.0	38.24	45.35
Sawyers, male	104.9	126.9	20.97	27.19
Stonecutters, granite, male	97.1	126.5	30.28	36.98
Stonecutters, soft stone, male	98.7	120.8	22.39	28.68
Stone polishers, male	105.7	116.1	9.84	15.49
Paper and Wood Pulp—				
Back tenders, male	101.8	155.9	53.14	61.01
Beaters, male	100.4	144.1	43.53	50.91
Bleachers, male	100.5	112.9	12.34	18.11
Calendrers, male	101.9	134.4	31.89	38.67
Calendrers, female	95.9	121.1	26.28	32.77
Cutters, male	97.4	110.1	13.04	18.85
Cutters, female	99.4	118.9	19.62	25.77
Enamelers, male	97.2	114.7	48.87	56.52
Finishers, male	97.3	114.8	17.99	24.05
Finishers, male	97.3	144.8	17.99	24.05
Finishers, female	98.5	134.9	36.95	43.99
Laborers, male	99.9	125.2	25.33	31.77
Machine tenders, male	99.5	145.8	46.53	54.06
Press tenders, male	101.6	153.6	51.18	58.95
Pulp grinders, male	101.1	150.8	49.16	56.83
Rag sorters, male	101.9	95.1	Decrease.	Decrease.
Rag sorters, female	99.2	118.5	19.46	25.60
Wood cookers, male	96.2	170.7	77.44	86.56
Wood preparers, male	98.8	165.9	67.91	76.54
Planing Mill—				
Carpenters, male	101.1	131.6	30.17	36.86
Framers, male	97.6	119.5	22.44	28.73
Glaziers, male	100.7	129.4	28.50	35.10
Laborers, male	96.0	121.4	26.46	32.96
Machine woodworkers, male	101.0	125.1	23.86	30.23
Sawyers, male*	99.7	122.4	22.77	29.08
Pottery—				
Dippers, male	104.9	122.9	17.16	23.18
Jigger man, male	92.2	114.0	23.64	30.00
Kiln firemen, male	114.2	109.8	Decrease.	1.09
*Including all classes of sawyers.				
Kiln men, male	96.2	108.3	12.58	18.37
Mold makers, male	96.0	104.5	8.85	14.44
Pressers, male	99.9	117.0	17.12	23.14
Sagger makers, male	96.6	121.0	25.26	31.70
Setters out, male	99.5	110.3	10.85	16.55
Printing and Binding, Book and Job—				
Bookbinders, male	102.5	122.2	19.22	25.35
Compositors, male	100.3	131.0	30.61	37.32
Compositors, female	102.7	160.0	55.79	63.80

Continued from preceding page.

Industry and Occupation.	Relative wages per hour. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Electrotypers, male	99.0	116.1	17.27	23.30
Press feeders, male	99.2	142.2	43.35	50.72
Press feeders, female	99.6	133.7	34.24	41.14
Pressmen, male	100.8	127.2	26.19	32.68
Proof readers, male	100.1	134.6	34.47	41.38
Proof readers, female	88.8	132.2	48.87	56.52
Sewers and stitchers, book, female	99.2	127.1	28.12	34.71
Printing, Newspaper—				
Compositors, male	99.6	124.1	24.60	31.00
Linotype operators, male	98.7	111.3	12.77	18.57
Pressmen, male	101.8	125.7	23.48	29.83
Stereotypers, male	102.3	119.9	17.20	23.22
Shipbuilding—				
Blacksmiths, male	104.0	112.5	8.17	13.73
Boiler makers, male	101.8	108.9	6.97	12.47
Calkers, iron, male	103.1	156.4	51.70	59.50
Calkers, wood, male	100.3	122.8	22.43	28.72
Carpenters, male	100.5	120.3	19.70	25.85
Drillers, male	107.1	138.3	29.13	35.77
Fitters, male	105.5	113.7	7.77	13.31
Joiners, male	106.8	118.0	10.49	16.17
Laborers, male	100.4	123.2	22.71	29.02
Machinists, male	103.4	117.5	13.64	19.48
Molders, iron, male	103.3	131.3	27.11	33.64
Painters, male	105.6	112.5	6.53	12.01
Pattern makers, male	102.7	127.0	23.66	30.02
Riggers, male	108.3	107.4	Decrease.	4.27
Riveters, male	118.1	120.3	1.86	7.10
Silk Goods—				
Beamers, male	93.0	103.4	11.18	16.89
Doublers, female	95.5	146.1	52.98	60.84
Dyers, male	106.6	100.9	Decrease.	Decrease.
Loom fixers, male	104.2	110.1	5.66	11.09
Pickers, female	93.2	133.2	42.92	50.27
Quillers, female	99.2	119.0	19.96	26.13
Spinners, male	104.4	127.2	21.84	28.10
Twisters-in, male	102.3	110.7	8.21	13.77
Warpers, male	110.5	138.5	25.34	31.78
Warpers, female	105.7	106.9	1.14	6.34
Weavers, male	97.9	114.7	17.16	23.18
Weavers, female	96.1	107.5	11.86	17.61
Weavers, ribbon, male	88.7	98.6	11.16	16.87
Weavers, ribbon, female	97.7	98.3	.61	5.78
Winders, female	101.4	125.5	23.77	30.13
Slaughtering and meat packing—				
Back skinners, cattle, male	96.1	132.4	37.77	44.85
Dry salters, male	93.9	112.8	20.13	26.30
Gutters, cattle, male	97.6	124.2	27.25	33.79
Gutters, hog, male	100.1	81.5	Decrease.	Decrease.
Headers, cattle, male	101.6	130.6	28.54	35.15
Headers, hog, male	99.4	114.9	15.59	21.53
Laborers, male	94.9	108.9	14.75	20.65
Picklers, male	96.8	112.9	16.63	22.62
Rump skinners, cattle, male	95.0	132.9	39.89	47.08
Scrapers, hog, male	104.9	96.9	Decrease.	Decrease.
Side skinners, cattle, male	95.1	120.2	26.39	32.89
Splitters, cattle, male	95.0	122.3	28.74	35.36
Splitters, hog, male	100.9	111.3	10.31	15.98
Stickers, cattle, male	97.4	118.5	21.66	27.91
Stickers, hog, male	101.1	119.3	18.00	24.07
Streets and Sewers, Contract Work—				
Laborers, male	103.7	145.7	40.50	47.72
Streets and Sewers, Municipal Work—				
Laborers, male	98.7	121.6	23.20	29.53
Tobacco, Cigars—				
Bunch makers, hand, male	118.5	129.8	14.36	20.24

Continued from preceding page. Industry and Occupation.	Relative wages per hour. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Bunch makers, hand, female	107.8	157.1	45.73	53.22
Bunch makers, machine, female	95.8	130.3	36.01	43.00
Cigar makers, male	96.8	118.7	22.62	28.92
Cigar rollers, hand, male	98.9	128.8	30.23	36.92
Cigar rollers, hand, female	98.7	126.8	28.47	35.07
Cigar rollers, machine, female	94.8	158.4	67.09	75.68
Packers, male	100.9	118.7	17.64	23.69
Packers, female	96.4	104.8	8.71	14.30
Stemmers, male	109.4	149.1	36.29	43.30
Stemmers, female	112.9	133.0	17.80	23.85
Woolen and Worsted Goods—				
Burlers, female	100.4	136.7	36.16	43.16
Carders, male	101.7	128.7	26.55	33.05
Card strippers, male	100.2	125.5	25.25	31.69
Combers, male	95.4	96.9	1.57	6.79
Combers, female	102.9	106.5	3.50	8.82
Dyers, male	99.4	122.3	23.04	29.36
Loom fixers, male	102.0	128.9	26.37	32.87
Spinners, frame, female	102.5	139.8	36.39	43.40
Spinners, mule, male	104.2	143.3	37.52	44.59
Weavers, male	98.0	142.1	45.00	52.45
Weavers, female	100.7	137.1	36.15	43.15

APPENDIX D.

Statements showing average farm prices by States as reported by the Bureau of Statistics of the United States Department of Agriculture for 1897 and 1907, with percentage increases and percentages of increased command over railway freight services at the average rates of 1897 and 1907 reported by the Interstate Commerce Commission.

CORN.

(States producing over $10,000,000 worth in 1907.)

State.	Value of crop of 1907.	Price, in cents, per bushel.			Increased power to purchase railway freight service, per cent.
		1897.	1907.	Increase, per cent.	
New York	$11,502,000	40	71	77.50	86.62
Pennsylvania	29,390,000	34	64	88.24	97.92
Maryland	11,986,000	30	54	80.00	89.25
Virginia	29,456,000	38	64	68.42	77.08
West Virgania	15,322,000	40	72	80.00	89.25
North Carolina	33,358,000	43	74	72.09	80.94
South Carolina	23,249,000	49	78	59.18	67.36
Georgia	43,729,000	48	76	58.33	66.47
Ohio	61,173,000	25	52	108.00	118.69
Indiana	75,978,000	21	45	114.29	125.30
Illinois	150,813,000	21	44	109.52	120.29
Michigan	31,455,000	27	55	103.70	114.17
Wisconsin	25,678,000	25	55	120.00	131.31
Minnesota	21,802,000	24	50	108.33	119.04
Iowa	116,195,000	17	43	152.94	165.94
Missouri	113,282,000	24	47	95.83	105.90
South Dakota	21,700,000	21	46	119.05	130.31
Nebraska	73,524,000	17	41	141.18	153.58
Kansas	68,262,000	22	44	100.00	110.28
Kentucky	49.322,000	35	53	51.43	59.21
Tennessee	44,667,000	36	57	58.33	66.47
Alabama	34,422,000	46	75	63.04	71.42
Mississippi	31,875,000	45	75	66.67	75.24
Louisiana	19,600,000	45	70	55.56	63.56
Texas	93,353,000	41	60	46.34	53.86
Oklahoma	49,837,000	*20	44	120.00	131.31
Arkansas	29,532,000	40	68	70.00	78.74
All other States	26,439,000	..	..	....	....
Total	$1,336,901,000	26.3	51.6	96.20	106.28

*In 1898, no data for 1897.

WHEAT.

(States producing over $5,000,000 worth in 1907.)

State.	Value of crop of 1907.	Price, in cents, per bushel.			Increased power to purchase railway freight service, per cent.
		1897.	1907.	Increase, per cent.	
New York	$7,125,000	90	99	10.00	15.65
Pennsylvania	28,891,000	91	96	5.49	10.91
Maryland	14,172,000	93	96	3.23	8.54
Virginia	8,024,000	92	98	6.52	12.00
North Carolina	5,692,000	94	107	13.83	19.68
Ohio	28,223,000	88	92	4.55	9.92
Indiana	29,931,000	89	88	Decrease.	3.96
Illinois	34,890,000	89	87	Decrease.	2.77
Michigan	11,585,000	87	91	4.60	9.98
Minnesota	62,192,000	77	92	19.48	25.62
Iowa	6,276,000	75	82	9.33	14.95
Missouri	24,538,000	85	84	Decrease.	3.90
North Dakota	47,963,000	74	87	17.57	23.61
South Dakota	28,907,000	69	89	28.99	35.62
Nebraska	36,270,000	69	79	14.49	20.37
Kansas	53,799,000	74	82	10.81	16.51
Kentucky	8,103,000	89	92	3.37	8.68
Tennessee	7,030,000	95	95	No change.	5.14
Oklahoma	7,164,000	76	83	9.21	14.82
Colorado	6,628,000	79	78	11.43	17.16
Idaho	5,788,000	70	67	Decrease.	.63
Washington	26,284,000	68	75	10.29	15.96
Oregon	11,907,000	72	78	8.33	13.98
California	20,110,000	83	98	18.07	24.14
All other States	32,945,000	..	..	....	....
Total	$554,437,000	80.8	87.4	8.17	13.73

OATS.

(States producing over $1,000,000 worth in 1907.)

State.	Value of crop of 1907.	Price, in cents, per bushel.			Increased power to purchase railway freight service, per cent.
		1897.	1907.	Increase, per cent.	
Maine	$2,560,000	32	60	87.50	97.14
Vermont	1,671,000	32	63	96.88	107.90
New York	21,139,000	27	57	111.11	121.96
Pennsylvania	16,032,000	27	54	100.00	110.28
Virginia	1,431,000	29	50	72.41	81.27
North Carolina	1,797,000	37	60	62.16	70.50
South Carolina	2,808,000	45	72	60.00	68.22
Georgia	3,607,000	42	72	71.43	80.24
Ohio	16,416,000	20	45	125.00	136.57
Indiana	15,407,000	19	42	121.05	132.41
Illinois	41,687,000	18	41	127.78	139.40
Michigan	14,656,000	23	48	108.70	119.43
Wisconsin	24,299,000	19	47	147.37	160.00
Minnesota	25,414,000	19	41	115.79	126.88
Iowa	41,382,000	16	38	137.50	149.71
Missouri	5,844,000	19	41	115.79	126.88
North Dakota	12,936,000	26	40	53.85	61.76
South Dakota	12,764,000	18	39	116.67	127.81
Nebraska	19,051,000	15	37	146.67	159.35
Kansas	6,879,000	18	42	133.33	145.32
Kentucky	1,656,000	27	49	81.48	90.81
Tennessee	1,529,000	28	50	78.57	87.75
Alabama	2,579,000	43	67	55.81	63.82
Mississippi	1,047,000	44	65	47.73	55.52
Texas	5,700,000	27	60	122.22	133.64
Oklahoma	3,069,000	..	48	....	....
Arkansas	1,843,000	33	54	63.64	72.05
Montana	5,410,000	33	46	39.39	46.55
Wyoming	1,177,000	35	53	51.43	.59.21
Colorado	2,945,000	32	50	56.25	64.28
Idaho	2,397,000	32	42	31.25	38.00
Washington	4,745,000	35	45	28.57	35.18
Oregon	4,394,000	35	45	28.57	35.18
California	3,235,000	49	71	44.90	52.35
All other States	5,122,000	..	..	.	....
Total	$334,568,000	21.2	44.3	108.96	119.70

BARLEY.

(States producing over $1,000,000 worth in 1907.)

State.	Value of crop of 1907.	Price, in cents, per bushel. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
New York	$1,580,000	42	80	90.48	100.27
Michigan	1,002,000	48	67	67.50	76.11
Wisconsin	13,817,000	32	75	134.38	146.43
Minnesota	17,864,000	24	67	179.17	193.52
Iowa	8,507,000	24	66	150.00	162.85
North Dakota	9,075,000	27	58	114.81	125.85
South Dakota	12,276,000	22	61	177.27	191.52
Nebraska	1,206,000	24	50	108.33	119.04
Kansas	2,372,000	25	54	116.00	127.10
Idaho	1,265,000	42	58	38.10	45.20
Washington	3,876,000	43	58	34.88	41.81
Oregon	1,460,000	45	57	26.67	33.18
California	23,444,000	54	78	44.44	51.86
All other States	4,546,000	..	..	....	....
Total	$102,298,000	37.7	66.6	76.66	85.74

RYE.

(States producing more than $1,000,000 worth in 1907.)

State.	Value of crop of 1907.	Price, in cents, per bushel. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
New York	$1,716,000	48	81	68.75	77.42
New Jersey	1,043,000	50	76	52.00	59.81
Pennsylvania	4,337,000	43	75	74.42	83.39
Michigan	3,925,000	42	72	71.43	80.24
Wisconsin	3,431,000	41	72	75.61	84.64
Minnesota	1,079,000	37	66	78.38	87.55
California	1,063,000	65	85	30.77	37.40
All other States	6,474,000	..	..	....	....
Total	$23,068,000	44.7	73.1	63.53	71.94

BUCKWHEAT.

(States producing more than $500,000 worth in 1907.)

State.	Value of crop of 1907.	Price, in cents, per bushel. 1897.	1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
New York	$3,981,000	40	70	75.00	84.00
Pennsylvania	3,192,000	42	69	64.29	72.73
Michigan	554,000	38	65	71.05	79.84
All other States	2,248,000	..	..	....	....
Total	$9,975,000	42.1	69.8	65.80	74.32

HAY.

(States producing more than $1,000,000 worth in 1907.)

State.	Value of crop of 1907.	Price, per ton 1897.	Price, per ton 1907.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Maine	$26,250,000	$9.75	$12.50	28.21	34.80
New Hampshire	13,608,000	11.50	15.75	36.91	43.95
Vermont	18,954,000	9.25	12.75	37.84	44.92
Massachusetts	14,449,000	13.90	19.00	36.69	43.72
Rhode Island	1,539,000	14.50	19.90	31.03	37.76
Connecticut	10,829,000	13.00	17.00	30.77	37.49
New York	91,388,000	8.25	15.50	87.88	97.54
New Jersey	10,778,000	10.75	17.00	58.14	66.27
Pennsylvania	71,946,000	9.15	15.75	72.13	80.00
Delaware	1,907,000	10.00	17.50	75.00	34.00
Maryland	6,336,000	10.50	16.00	52.38	60.21
Virginia	9,529,000	10.25	15.75	53.66	61.56
West Virginia	13,485,000	8.25	15.50	87.88	97.54
North Carolina	3,135,000	9.75	16.50	69.23	77.93
South Caorlina	1,518,000	11.50	16.50	43.48	50.85
Georgia	2,988,000	13.00	18.00	38.46	45.58
Ohio	47,588,000	6.25	11.75	88.00	97.66
Indiana	37,716,000	5.90	12.00	103.39	113.84
Illinois	41,030,000	6.15	11.00	78.86	88.65
Michigan	40,575,000	7.75	12.50	61.29	69.58
Wisconsin	35,708,000	6.25	11.50	84.00	93.46
Minnesota	11,475,000	4.50	7.50	66.67	75.24
Iowa	39,200,000	4.25	8.00	88.23	97.91
Missouri	37,555,000	6.15	9.25	50.41	58.14
North Dakota	1,547,000	3.25	6.50	100.00	110.28
South Dakota	3,850,000	2.95	5.50	86.44	96.02
Nebraska	14,062,000	3.00	6.25	108.33	119.04
Kansas	14,950,000	3.40	7.25	113.24	124.20
Kentucky	8,073,000	10.00	13.50	35.00	41.94
Tennessee	7,620,000	10.75	15.00	39.53	46.70
Alabama	3,019,000	10.25	15.25	48.78	56.43
Mississippi	1,664,000	9.50	13.00	36.84	43.87
Texas	5,310,000	7.25	10.75	84.28	55.90
Oklahoma	3,055,000	....	6.50	....	....
Arkansas	2,937,000	8.65	11.75	35.84	42.82
Montana	8,075,000	7.75	9.50	22.58	28.88
Wyoming	3,938,000	6.00	7.38	23.00	29.32
Colorado	17,366,000	5.50	9.50	72.73	81.61
New Mexico	3,854,000	7.00	11.75	67.86	76.49
Arizona	3,654,000	5.00	14.00	180.00	194.39
Nevada	3,180,000	5.00	10.00	100.00	110.28
Utah	5,222,000	4.75	7.00	47.37	54.94
Idaho	8,585,000	5.25	8.50	61.90	70.22
Washington	11,535,000	9.00	15.00	66.67	75.24
Oregon	8,323,000	7.75	10.25	32.26	39.06
California	13,938,000	9.00	12.50	38.89	46.03
All other States	1,173,000	....	....	....	....
Total	$773,507,000	6.62	11.68	76.44	85.51

POTATOES.

(States producing more than $1,000,000 worth in 1907.)

State.	Value of crop of 1907.	Price, in cents, per bushel.			Increased power to purchase railway freight service, per cent.
		1897.	1907.	Increase, per cent.	
Maine	9,582,000	89	56	Decrease.	Decrease.
New Hampshire	1,528,000	90	67	"	"
Vermont	1,654,000	70	53	"	"
Massachusetts	3,024,000	90	84	"	"
Connecticut	2,464,000	90	77	"	"
New York	23,796,000	67	57	"	"
New Jersey	6,216,000	78	74	"	"
Pennsylvania	15,389,000	66	67	1.52	6.74
Maryland	1,710,000	68	60	Decrease.	Decrease.
Virginia	3,046,000	70	68	Decrease.	2.13
West Virginia	2,258,000	65	80	23.08	29.41
North Carolina	1,579,000	64	78	21.88	28.14
Ohio	8,114,000	62	68	9.68	15.32
Indiana	4,750,000	62	65	4.84	10.23
Illinois	9,647,000	62	72	16.13	22.10
Michigan	12,109,000	43	45	4.65	10.03
Wisconsin	10,237,000	38	45	18.42	24.51
Minnesota	6,004,000	31	41	32.26	39.06
Iowa	6,592,000	47	55	17.02	23.03
Missouri	5,136,000	63	72	14.29	20.16
North Dakota	1,490,000	33	62	87.88	97.54
South Dakota	1,638,000	32	50	56.25	64.28
Nebraska	4,497,000	46	70	52.17	59.99
Kansas	4,976,000	55	88	60.00	68.22
Kentucky	2,220,000	67	75	11.94	17.69
Tennessee	1,421,000	73	76	4.11	9.46
Alabama	1,425,000	94	100	6.38	11.85
Texas	2,529,000	95	105	10.53	16.21
Oklahoma	1,960,000		100	....	....
Arkansas	1,592,000	84	91	8.33	13.90
Montana	1,350,000	40	50	25.00	31.42
Colorado	4,653,000	56	66	17.86	23.92
Idaho	1,056,000	32	52	62.50	70.85
Washington	3,000,000	28	50	78.57	87.75
Oregon	2,940,000	40	56	40.00	47.20
California	6,264,000	49	90	83.67	93.11
All other States	6,338,000	..	..	....	....
Total	$184,184,000	54.7	61.8	12.96	18.79

APPENDIX E.

Statements showing the values of farm animals by States as reported by the Bureau of Statistics of the United States Department of Agriculture for January 1, 1897 and on the same date in 1908, with percentage increases and percentages of increased power to purchase railway freight service at the average rates for 1897 and 1907 reported by the Interstate Commerce Commission. It should be noted that these data relate solely to animals on farms and to farm values.

HORSES.

(States having more than $10,000,000 worth on January 1, 1908.)

State.	Value on January 1, 1908.	Average Value. January 1, 1897.	Average Value. January 1, 1908.	Average Value. Increase. per cent.	Increased power to purchase railway freight service, per cent.
Maine	$12,296,000	$46.58	$106.00	127.57	139.27
New York	78,648,000	49.67	113.00	127.50	139.19
New Jersey ...	11,526,000	58.98	113.00	91.59	191.44
Pennsylvania ..	69,198,000	44.27	114.00	157.51	170.75
Maryland	14,852,000	38.25	94.00	145.75	158.38
Virginia	39,167,000	36.42	97.00	166.34	180.03
West Virginia .	19,278,000	33.28	102.00	206.49	222.24
North Carolina.	29,330,000	44.76	107.00	139.05	151.34
Georgia	15,429,000	48.34	111.00	129.62	141.42
Ohio	105,339,000	36.67	111.00	202.70	218.26
Indiana	85,470,000	31.81	105.00	230.06	247.05
Illinois	170,237,000	39.91	107.00	246.17	263.96
Michigan	73,920,000	43.14	105.00	143.39	155.90
Wisconsin	67,515,000	40.95	105.00	156.41	169.59
Minnesota	76,854,000	35.95	98.00	172.00	186.61
Iowa	140,481,000	28.94	99.00	242.09	259.67
Missouri	84,216,000	24.79	88.00	254.98	273.23
North Dakota .	59,752,000	38.43	97.00	166.26	179.95
South Dakota ..	48,160,000	26.50	86.00	224.53	241.21
Nebraska	88,305,000	24.60	87.00	252.51	270.63
Kansas	96,396,000	23.54	87.00	269.58	288.58
Kentucky	37,145,000	32.57	95.00	191.68	206.67
Tennessee	30,555,000	36.41	97.00	166.41	183.10
Alabama	14,240,000	38.82	89.00	129.26	141.94
Mississippi	20,620,000	35.19	77.00	118.81	130.96
Louisiana	14,784,000	27.26	66.00	142.11	154.55
Texas	83,070,000	17.73	65.00	266.61	285.45
Oklahoma	54,312,000	13.41	73.00	444.37	472.35
Arkansas	18,972,000	26.45	68.00	157.09	179.30
Montana	21,316,000	24.38	73.00	199.43	214.82
Colorado	18,602,000	20.96	71.00	253.94	272.13
Idaho	11,250,000	17.12	75.00	338.06	360.60
Washington	30,475,000	20.47	98.00	378.75	403.36
Oregon	27,360,000	18.18	96.00	428.65	455.19
California	37,224,000	27.40	94.00	243.07	260.70
All other States	85,833,000	....	....	....	....
Total	$1,867,530,000	$31.51	$93.41	196.45	211.69

MULES.

(States having more than $5,000,000 worth on January 1, 1908.)

State.	Value on January 1, 1908.	Average Value. January 1, 1897.	Average Value. January 1, 1908.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Pennsylvania	$5,084,000	$58.81	$124.00	110.85	121.69
Virginia	6,324,000	48.58	124.00	155.25	168.37
North Carolina ..	22,302,000	49.98	126.00	152.10	165.00
South Carolina ..	19,734,000	61.68	143.00	131.84	143.76
Georgia	32,480,000	62.93	140.00	122.47	133.90
Indiana	9,768,000	36.06	111.00	207.65	223.46
Illinois	16,159,000	35.00	113.00	216.62	232.89
Missouri	32,421,000	29.91	101.00	237.68	255.04
Nebraska	6,936,000	32.33	102.00	215.50	231.72
Kansas	13,860,800	31.04	99.60	218.94	235.33
Kentucky	21,396,000	33.97	106.00	212.84	228.68
Tennessee	30,672,000	39.17	108.00	175.72	189.89
Alabama	26,442,000	49.01	113.00	130.57	142.42
Mississippi	29,295,000	48.81	105.00	115.12	126.18
Louisiana	18,312,800	52.83	109.00	106.32	116.92
Texas	57,967,000	29.83	91.00	205.06	220.74
Oklahoma	16,128,000	21.69	96.00	342.60	365.35
Arkansas	19,855,800	34.26	95.60	177.29	191.54
California	9,266,000	36.89	113.00	206.32	222.06
All other States .	22,628,000	....	....	....	....
Total	$416,939,000	$41.66	$107.76	158.67	171.96

CATTLE.—INCLUDING MILCH COWS.

(States having more than $10,000,000 worth on January 1, 1908.)

State.	Value on January 1, 1908.	Average Value. January 1, 1897.	Average Value. January 1, 1908.	Increase, per cent.	Increased power to purchase railway freight service, per cent.
Vermont	$11,824,000	$22.72	$23.09	1.63	6.85
New York	75,351,000	23.24	27.95	20.27	26.45
Pennsylvania ..	58,842,000	24.30	27.79	14.36	20.24
Virginia	18,723,000	16.44	22.05	34.12	41.01
West Virginia .	20,229,000	18.50	25.41	37.35	44.41
North Carolina..	12,456,000	11.38	16.74	47.10	54.66
Georgia	15,180,000	11.65	15.36	31.85	38.63
Ohio	55,458,000	23.91	28.04	17.27	23.30
Indiana	44,796,000	22.29	25.51	14.45	20.33
Illinois	89,048,000	25.65	26.60	3.70	9.93
Michigan	44,914,000	23.23	24.25	4.39	9.76
Wisconsin	57,237,000	20.74	22.63	9.11	14.72
Minnesota	44,468,000	19.64	19.18	Decrease.	2.68
Iowa	128,929,000	26.10	23.72	Decrease.	Decrease.
Missouri	74,482,000	21.41	22.47	4.95	10.34
North Dakota ..	16,432,000	19.36	18.97	Decrease.	3.03
South Dakota ..	42,663,000	21.26	20.87	Decrease.	3.22
Nebraska	87,526,000	21.28	21.12	Decrease.	4.35
Kansas	92,478,000	22.44	21.51	Decrease.	.79
Kentucky	23,797,000	18.50	21.40	15.68	21.63
Tennessee	14,753,000	12.83	15.93	24.16	30.54
Alabama	10,255,000	8.50	12.48	46.82	54.37
Mississippi	11,312,000	9.93	12.31	23.97	39.34
Texas	121,772,000	11.81	13.69	15.92	21.88
Oklahoma	37,812,000	18.20	17.57	Decrease.	1.50
Arkansas	12,664,000	9.77	11.74	20.16	26.34
Montana	20,064,000	17.89	21.16	18.28	24.36
Wyoming	20,986,000	17.26	24.37	41.19	48.44
Colorado	34,408,000	20.02	21.53	7.54	13.07
New Mexico ...	16,913,000	12.02	17.54	45.92	53.42
Arizona	11,240,000	12.33	17.96	45.66	53.15
Washington ...	13,810,000	17.24	24.10	30.79	46.98
Oregon	18,416,000	14.67	20.10	37.91	44.05
California	36,705,000	19.39	23.45	20.94	27.16
All other States.	100,052,000	....	....	....	....
Total	$1,495,995,000	$18.88	$20.99	11.17	16.89

SHEEP.

(States having more than $1,000,000 worth on January 1, 1908.)

State.	Value on January 1, 1908.	Average Value. January 1, 1897.	Average Value. January 1, 1908.	Increase. per cent.	Increased power to purchase railway freight service, per cent.
Maine	$1,092,000	$2.05	$4.09	99.51	109.76
New York	5,440,000	2.68	4.81	79.48	88.71
Pennsylvania	5,091,000	2.77	4.62	66.79	75.36
Virginia	2,048,000	2.14	4.00	86.92	96.53
West Virginia ..	2,970,000	2.18	4.40	101.83	112.20
Ohio	13,933,000	2.48	4.48	80.65	89.94
Indiana	6,148,000	2.71	5.06	86.72	96.32
Illinois	3,973,000	2.86	5.01	75.17	84.17
Michigan	8,500,000	2.64	4.46	68.94	77.62
Wisconsin	4,333,000	2.37	4.15	75.11	84.11
Minnesota	1,740,000	2.19	3.79	73.06	81.96
Iowa	3,568,000	3.02	4.97	64.57	73.03
Missouri	4,434,000	1.90	4.36	129.47	141.26
North Dakota ...	2,232,000	1.95	3.56	82.56	91.94
South Dakota ...	2,980,000	2.17	3.63	67.28	75.88
Nebraska	1,621,000	2.47	3.76	52.23	60.05
Kentucky	4,520,000	1.90	4.22	122.11	133.53
Tennessee	1,180,000	1.44	3.39	135.42	147.52
Texas	4,929,000	1.20	2.74	128.33	140.07
Montana	21,544,000	1.61	3.90	142.24	154.69
Wyoming	24,423,000	1.80	4.15	130.56	142.41
Colorado	5,644,000	1.76	3.33	89.20	98.92
New Mexico	16,515,000	1.06	3.45	225.47	242.20
Arizona	3,732,000	1.57	3.62	130.57	142.42
Utah	11,512,000	1.52	3.88	155.26	168.38
Nevada	6,011,000	1.69	3.79	124.26	135.79
Idaho	12,691,000	1.71	3.65	107.60	118.27
Washington	3,074,000	1.86	3.73	100.54	110.85
Oregon	9,526,000	1.33	3.58	169.17	183.01
California	8,404,000	1.86	3.47	86.56	96.15
All other States..	6,928,000	....	....	....	....
Total	$211,736,000	1.82	3.88	113.19	124.15

SWINE.

(States having over $1,000,000 worth on January 1, 1908.)

State.	Value on January 1, 1908.	Average Value. January 1, 1897.	Average Value. January 1, 1908.	Increase. per cent.	Increased power to purchase railway freight service, per cent.
New York	$5,954,000	$6.61	$8.90	34.64	41.56
New Jersey	1,550,000	8.92	10.90	24.69	31.10
Pennsylvania	7,722,000	6.67	7.80	16.94	22.95
Maryland	1,881,000	6.74	6.35	Decrease.	Decrease.
Virginia	4,588,000	3.38	5.75	70.12	78.86
West Virginia ..	2,179,000	4.25	5.75	35.29	42.24
North Carolina ..	7,599,000	3.11	5.90	89.06	89.32
South Carolina ..	3,865,000	3.49	5.70	63.32	71.71
Georgia	8,794,000	3.17	5.50	73.50	82.42
Florida	1,496,000	2.92	3.75	85.64	95.18
Ohio	16,634,000	4.93	6.50	31.85	38.68
Indiana	19,586,000	5.65	6.20	22.77	29.06
Illinois	30,835,000	5.18	6.60	27.41	33.96
Michigan	9,161,000	5.92	6.60	11.49	17.22
Wisconsin	13,370,000	5.38	7.00	30.11	36.80
Minnesota	8,996,000	4.91	7.10	44.60	52.03
Iowa	54,684,000	5.67	6.50	14.64	20.53
Missouri	18,564,000	3.90	5.15	20.67	35.70
North Dakota ...	1,748,000	4.50	7.50	66.67	75.24
South Dakota ...	6,321,000	4.39	7.00	59.45	67.65
Nebraska	26,519,000	4.77	6.25	31.03	37.76
Kansas	15,712,000	4.61	5.90	27.98	34.56
Kentucky	5,866,000	3.34	4.60	37.72	44.90
Tennessee	6,934,000	3.33	4.65	39.64	46.82
Alabama	5,755,000	2.53	4.60	81.62	91.17
Mississippi	5,922,000	2.40	4.50	87.50	97.14
Louisiana	3,919,000	2.83	4.50	59.01	67.18
Texas	18,522,000	2.48	5.25	111.69	122.57
Oklahoma	8,464,000	4.08	5.33	30.64	37.35
Arkansas	4,283,000	2.32	3.80	63.79	72.21
Wyoming	1,200,000	4.52	8.00	76.99	86.00
Washington	1,410,000	3.32	7.75	133.43	145.43
Oregon	1,744,000	2.37	6.25	163.71	177.26
California	3,967,000	4.13	7.20	74.33	83.29
All other States .	6,231,000	....	....	....	....
Total	$339,030,000	$4.10	$6.05	47.56	55.14

APPENDIX F.

Statements showing comparisons of classifications for 1888 and 1908 and 1888 and 1898 compiled in the same manner as those for 1898 and 1908 which appear in the text at pages 44 to 46. The data shown in the tables appearing in this appendix are summarized in the text in tables appearing at page 48.

1888 to 1908. Less than carloads.

Increases.							Decreases.						
			Aggregate charge for 100 lbs. each of all articles increased if shipped from New York to Chicago.							Aggregate charge for 100 lbs. each of all articles decreased if shipped from New York to Chicago.			
					Increase.							Decrease.	
1888.	1908.	Number.	1888.	1908.	Amount.	Per cent.	1888.	1908.	Number.	1888.	1908.	Amount.	Per cent.
2.25	$3.00	1	$2.25	$3.00	$0.75	33.33	$3.00	$2.25	3	$9.00	$6.75	$2.25	25.00
1.87½	2.25	1	1.87½	2.25	.37½	20.00	2.25	1.87½	1	2.25	1.87½	.37½	16.67
1.50	2.25	5	7.50	11.25	3.75	50.00	2.25	1.50	3	6.75	4.50	2.25	33.33
1.50	1.87½	1	1.50	1.87½	.37½	25.00	2.25	1.12½	1	2.25	1.12½	1.12½	50.00
1.12½	2.25	1	1.12½	2.25	1.12½	100.00	2.25	.75	5	11.25	3.75	7.50	66.67
1.12½	1.50	6	6.75	9.00	2.25	33.33	1.87½	1.50	1	1.87½	1.50	.37½	20.00
.75	2.25	2	1.50	4.50	3.00	200.00	1.50	1.12½	12	18.00	13.50	4.50	25.00
.75	1.50	22	16.50	33.00	16.50	100.00	1.50	.75	34	51.00	25.50	25.50	50.00
.75	1.12½	27	20.25	30.37½	10.12½	50.00	1.50	.65	2	3.00	1.30	1.70	56.67
.65	1.12½	2	1.30	2.25	.95	73.08	1.50	.50	2	3.00	1.00	2.00	66.67
.65	.75	57	37.05	42.75	5.70	15.38	1.50	.40	2	3.00	.80	2.20	73.33
.50	1.50	2	1.00	3.00	2.00	200.00	1.12½	.75	11	12.37½	8.25	4.12½	33.33
.50	.75	26	13.00	19.50	6.50	50.00	1.12½	.65	1	1.12½	.65	.47½	42.22
.50	65	44	22.00	28.60	6.60	30.00	1.12½	.55	1	1.12½	.55	.57½	51.11
.50	.55	71	35.50	39.05	3.55	10.00	.75	.65	49	36.75	31.85	4.90	13.33
.35	.65	11	3.85	7.15	3.38	85.71	.75	.55	18	13.50	9.90	3.60	26.67
.35	.55	14	4.90	7.70	2.80	57.14	.75	.50	29	21.75	14.50	7.25	33.33
.35	.50	76	26.60	38.00	11.40	42.86	.75	.40	2	1.50	.80	70	46.67
.35	.40	143	50.05	57.20	7.15	14.29	.75	.35	6	4.50	2.10	2.40	53.33
.30	.40	2	.60	.80	.20	33.33	.65	.55	17	11.05	9.35	1.70	15.38
.30	.35	12	3.60	4.20	.60	16.67	.65	.50	100	65.00	50.00	15.00	23.08
....	....	..	....	....	....	....	.65	.40	17	11.05	6.80	4.25	38.46
....	....	..	....	....	....	....	.65	.35	12	7.80	4.20	3.60	46.15
....	....	..	....	....	....	....	.50	.46	19	9.50	7.60	1.90	20.00
....	....	..	....	....	....	....	.50	.35	37	18.50	12.95	5.55	30.00
....	....	..	....	....	....	....	.35	.30	2	.70	.60	.10	14.29
Total		526	$258.70	$347.70	$89.00	34.40	Total		387	$327.60	$221.70	$105.90	32.33

1888 to 1908. Carloads.

Increases. Aggregate charge for 100 lbs. each of all articles increased if shipped from New York to Chicago.							Decreases. Aggregate charge for 100 lbs. each of all articles decreased if shipped from New York to Chicago.						
					Increase.							Decrease.	
1888.	1908.	Number.	1888.	1908.	Amount.	Per cent	1888.	1908.	Number.	1888.	1908.	Amount.	Per cent.
$0.65	$0.75	2	$1.30	$1.50	$0.20	15.38	$3.00	$0.65	1	$3.00	$0.065	$2.35	78.33
.50	.75	3	1.50	2.25	.75	50.00	2.25	.75	1	2.25	.75	1.50	66.67
.50	.65	18	9.00	11.70	2.70	30.00	2.25	.65	5	11.25	3.25	8.00	71.11
.50	.55	2	1.00	1.10	.10	10.00	2.25	.55	2	4.50	1.10	3.40	75.56
.35	.75	2	.70	1.50	.80	114.29	2.25	.50	2	4.50	1.00	3.50	77.78
.35	.65	6	2.10	3.90	1.80	85.71	2.25	.30	1	2.25	.30	1.95	86.67
.35	.55	17	5.95	9.35	3.46	57.14	1.87½	.55	1	1.87½	.55	1.32½	70.67
.35	.50	12	4.20	6.00	1.80	42.86	1.50	.75	4	6.00	3.00	3.00	56.00
.35	.40	1	.35	.40	.05	14.29	1.50	.65	7	10.50	4.55	5.95	56.67
.30	1.50	1	.30	1.50	1.20	400.00	1.50	.55	1	1.50	.55	.95	63.33
.30	.75	2	.60	1.50	.90	150.00	1.50	.50	9	13.50	4.50	9.00	66.67
.30	.65	2	.60	1.30	.70	116.67	1.50	.35	4	6.00	1.40	4.60	76.67
.30	.55	7	2.10	3.85	1.75	83.33	1.50	.30	11	16.50	3.30	13.20	80.00
.30	.50	6	1.80	3.00	1.20	66.67	1.12½	.75	3	3.37½	2.25	1.12½	33.33
.30	.40	7	2.10	2.80	.70	33.33	1.12½	.65	2	2.25	1.30	.95	42.22
.30	.35	52	15.60	18.20	2.60	16.67	1.12½	.50	8	9.00	4.00	5.00	55.56
.25	.40	1	.25	.40	.15	60.00	1.12½	.35	3	3.37½	1.05	2.32½	68.89
.25	.35	10	2.50	3.50	1.00	40.00	1.12½	.30	2	2.25	.60	1.65	73.33
.25	.30	77	19.25	23.10	3.85	20.00	.75	.65	26	19.50	16.90	2.60	13.33
....	....	..	....	....	....	——	.75	.55	1	.75	.55	.20	26.67
....	....	..	....	....	....	——	.75	.50	64	48.00	32.00	16.00	33.33
....	....	..	....	....	....	——	.75	.40	1	.75	.40	.35	46.67
....	....	..	....	....	....	——	.75	.35	33	24.75	11.55	13.20	53.33
....	....	..	....	....	....	——	.75	.30	46	34.50	13.80	20.70	60.00
....	....	..	....	....	....	——	.75	.25	2	1.50	.50	1.00	66.67
....	....	..	....	....	....	——	.65	.55	1	.65	.55	.10	15.38
....	....	..	....	....	....	——	.65	.50	.21	13.65	10.50	3.15	23.08
....	....	..	....	....	....	——	.65	.35	80	52.00	28.00	24.00	46.15
....	....	..	....	....	....	——	.65	.30	58	37.70	17.40	20.30	53.85
....	....	..	....	....	....	——	.50	.40	3	1.50	1.20	.30	20.00
....	....	..	....	....	....	——	.50	.35	60	30.00	21.00	9.00	30.00
....	....	..	....	....	....	——	.50	.30	77	38.50	23.10	15.40	40.00
....	....	..	....	....	....	——	.50	.25	1	.50	.25	.25	50.00
....	....	..	....	....	....	——	.35	.30	105	36.75	31.50	5.25	14.29
....	....	..	....	....	....	——	.35	.25	11	3.85	2.75	1.10	28.57
....	....	..	....	....	....	——	.30	.25	27	8.10	6.75	1.35	16.67
Total		228	$71.20	$96.85	$25.65	36.03	Total		684	$456.62½	$252.80	$204.02½	44.66

1888 to 1898. Less than carloads.

Increases.							Decreases.						
			Aggregate charge for 100 lbs. each of all articles increased if shipped from New York to Chicago.							Aggregate charge for 100 lbs. each of all articles decreased if shipped from New York to Chicago.			
					Increase.							Decrease.	
1888.	1898.	Number.	1888.	1898.	Amount.	Per cent.	1888.	1898.	Number.	1888.	1898.	Amount.	Per cent.
$2.25	$3.00	1	$2.25	$3.00	$0.75	33.33	$3.00	$2.25	3	$9.00	$6.75	$2.25	25.00
1.87½	2.25	1	1.87½	2.25	.37½	20.00	2.25	1.87½	1	2.25	1.87½	.37½	16.67
1.50	2.25	5	7.50	11.25	3.75	50.00	2.25	1.50	3	6.75	4.50	2.25	33.33
1.50	1.87½	2	3.00	3.75	.75	25.00	2.25	1.12½	1	2.25	1.12½	1.12½	50.00
1.12½	2.25	1	1.12½	2.25	1.12½	100.00	2.25	.75	4	9.00	3.00	3.00	66.67
1.12½	1.87½	1	1.12½	1.87½	.75	66.67	1.87½	1.50	1	1.87½	1.50	.37½	20.00
1.12½	1.50	7	7.87½	10.50	2.62½	33.33	1.50	1.12½	8	12.00	9.00	3.00	25.00
.75	2.25	1	.75	2.25	1.50	200.00	1.50	.75	27	40.50	20.25	20.25	50.00
.75	1.50	17	12.75	25.50	12.75	100.00	1.50	.65	1	1.50	.65	.85	56.67
.75	1.12½	22	16.50	24.75	8.25	50.00	1.50	.50	2	3.00	1.00	2.00	66.67
.65	1.12½	2	1.30	2.25	.95	73.08	1.50	.35	2	3.00	.70	2.30	76.67
.65	.75	42	27.30	31.50	4.20	15.38	1.12½	.75	10	11.25	7.50	3.75	33.33
.50	1.50	2	1.00	3.00	2.00	200.00	1.12½	.65	1	1.12½	.65	.47½	42.22
.50	.75	20	10.00	15.00	5.00	50.00	1.12½	.50	1	1.12½	.50	.62½	55.56
.56	.65	47	23.50	30.55	7.05	30.00	.75	.65	40	30.00	26.00	4.00	13.33
.35	.75	1	.35	.75	.40	114.29	.75	.50	42	31.50	21.00	10.50	33.33
.35	.65	6	2.10	3.90	1.80	85.71	.75	.35	4	3.00	1.40	1.60	53.33
.35	.50	70	24.50	35.00	10.50	42.86	.65	.50	102	66.30	51.00	15.30	23.08
.30	.35	6	1.89	2.10	.30	16.67	.65	.35	16	10.40	5.60	4.80	46.15
....	....	..	....	....	....	....	.50	.35	46	23.00	16.10	6.90	30.00
....	....	..	....	....	....	....	.35	.30	5	1.75	1.50	.25	14.29
Total		254	$146.60	$211.42½	$64.82½	44.22	Total		320	$270.57½	$181.60	$88.97½	32.88

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